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TAXILA

SIR JOHN MARSHALL

TAXILA

AN ILLUSTRATED ACCOUNT OF

ARCHAEOLOGICAL EXCAVATIONS

CARRIED OUT AT TAXILA
UNDER THE ORDERS OF THE GOVERNMENT OF INDIA
BETWEEN THE YEARS 1913 AND 1934

IN THREE VOLUMES

BY

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VOLUME I

STRUCTURAL REMAINS

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To

ALL MY GOOD COMRADES AT TAXILA
WHO TOILED WITH ME
FOR MORE THAN A SCORE OF YEARS
TO RECOVER
THESE BURIED TREASURES
OF THE PAST

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LIST OF ABBREVIATIONS

Æ	Copper.
A.G.-B.G.	*L'Art gréco-bouddhique du Gandhāra*, by A. Foucher. Paris, 1905–18.
AR	Silver.
Arch.	Archaeological, Archéologique, Archäologischer, etc.
Arch. Anz.	*Archäologischer Anzeiger.*
A.S.I.	*Archaeological Survey of India.*
A.S.I. Mem.	*Memoirs of the Archaeological Survey of India.*
A.S.R.	*Annual Reports of the Archaeological Survey of India* (from 1902 onwards), ed. Sir John Marshall and others.
As. Res.	*Asiatic Researches*
AV	Gold.
Bab.	Babylonian.
Bj.	Bajrān.
Bl.	Bhamāla.
Bm.	Bhir Mound.
B.M. Cat.	*British Museum Catalogue.*
	[The chief catalogues referred to are the following:
	Bronzes, Greek, Roman and Etruscan, by H. B. Walters.
	Engraved Gems, by H. B. Walters (1926).
	Jewellery, by F. H. Marshall.
	Finger-rings, by F. H. Marshall.
	Coins: Greek and Scythic Kings of Bactria and India, by P. Gardner (1886).
	Coins of Ancient India, by J. Allan (1936).
	Coins of the Andhra Dynasty, etc., by E. J. Rapson (1908).
	Coins of Parthia, by W. Wroth (1903).
	Coins of the Seleucid Kings of Syria, by P. Gardner (1878).]
Bp.	Bādalpur.
Br.	Brāhmī (script).
B.S.A.	British School at Athens.
C.A.H.	*Cambridge Ancient History.*
C.A.I.	*Coins of Ancient India*, by Sir A. Cunningham.
C.H.I.	*Cambridge History of India.*
Ch.T.	Chir Tope.
C.I.I.	*Corpus Inscriptionum Indicarum.*
C.M.I.	*Coins of Mediaeval India*, by Sir A. Cunningham.

C.S.R.	*Annual Reports of the Archaeological Survey of India* (1860 84), ed. Sir A. Cunningham and others. Vols. I–XXIII.
Cunn.	Cunningham.
Dar. et Sag.	Daremberg et Saglio, *Dictionnaire des antiquités grecques et romains.*
Dh.	Dharmarājikā.
Dīp.	*Dīpavaṃsa.*
Div.	*Divyāvadāna.*
E.H.I.	*Early History of India*, by V. A. Smith.
Ency. Brit.	*Encyclopaedia Britannica.*
Ep. Ind.	*Epigraphia Indica.*
E.R.E.	*Encyclopaedia of Religion and Ethics*, ed. J. Hastings.
Gaz. Arch.	*Gazette Archéologique.*
Gh.	Ghai.
Gr.	Giri.
Grund. d. indo-ar. Phil.	*Grundriss der indo-arischen Philologie und Alterthumskunde.*
Hist. Num.	*Historia Numorum*, by B. V. Head.
Hl.	Hathiāl.
I.H.Q.	*Indian Historical Quarterly.*
I.M. Cat.	*Indian Museum Catalogue.*
Imp. Gaz.	*Imperial Gazetteer of India.*
Ind. Alt.	*Indische Alterthumskunde.*
Ind. Ant.	*Indian Antiquary.*
J.A.	*Journal Asiatique.*
J.A.I.	*Journal of the Anthropological Institute.*
J.A.O.S.	*Journal of the American Oriental Society.*
J.A.S.B.	*Journal of the Royal Asiatic Society of Bengal.*
J.B.O.R.S.	*Journal of the Bihar and Orissa Research Society.*
J.B.R.A.S	*Journal of the Bombay Branch of the Royal Asiatic Society.*
J.H.S.	*Journal of Hellenic Studies.*
J.I.A.I.	*Journal of Indian Art and Industry.*
Jl.	Jaṇḍiāl.
Jn.	Jauliāñ.
J.R.A.S.	*Journal of the Royal Asiatic Society.*
Kh.	Kharoshṭhī.
Kn.	Kālawān.
Kun.	Kunāla.
Lc.	Lālchak.
Mbh.	*Mahābhārata.*

Mém. Dél. Perse	*Mémoires de la Délégation en Perse.*
M.E.R.	*Annual Reports of the Government Epigraphist*, Madras.
Mhv.	*Mahāvaṃsa.*
M.I.C.	*Mohenjo-daro and the Indus Civilisation*, by Sir John Marshall.
Mil.	*Milindapañha.*
Ml.	Mahal.
Mm.	Mohṛā Morādu.
mon.	monogram or similar mark.
Mus.	Museum.
N.C. or *Num. Chron.*	*Numismatic Chronicle.*
N.N.M.	*Numismatic Notes and Monographs.*
obv.	obverse.
O.G.I.S.	*Orientis Graeci Inscriptiones Selectae.*
P.	Lead.
Pl.	Pippala.
P.M. Cat.	*Panjab Museum Catalogue of Coins*, by R. B. Whitehead.
P.T.S.	Pali Text Society.
Rām.	*Rāmāyaṇa.*
rev.	reverse.
Rev. Arch.	*Revue Archéologique.*
Rev. Num.	*Revue Numismatique.*
R.P.	Rattā Piṇḍ.
R.U.C.	Rare and Unique Coins found at Taxila (ch. 39).
Rv.	*Rigveda.*
SB.	*Sitzungsberichte.*
S.B.E.	*Sacred Books of the East.*
Sk.	Sirkap.
Ss.	Sirsukh.
Vin.	*Vinaya.*
W.Z.K.M.	*Wiener Zeitschrift für die Kunde des Morgenländes.*
Z.D.M.G.	*Zeitschrift der Deutschen Morgenländischen Gesellschaft.*
Z.S.I.	*Zoological Survey of India.*

PREFACE

It is upwards of forty years since I first visited Taxila and I still remember the thrill I got from the sight of its buried cities. At that time I was a young man, fresh from archaeological excavations in Greece and filled with enthusiasm for anything Greek; and in that far-off corner of the Panjāb it seemed as if I had lighted of a sudden on a bit of Greece itself. Doubtless the illusion was prompted in a large measure by Taxila's historic associations with Greece; for it was in Taxila that Alexander the Great halted and refreshed his army before advancing to do battle with Porus; and it was here that Greek kings afterwards ruled for a hundred years and left behind them an enduring legacy of Hellenistic culture. But there was more to it than that. I felt then, as I have never ceased to feel since, that there was something appealingly Greek in the countryside itself: in the groves of wild olive on the rocky slopes, in the distant pine-clad hills below Murree, and in the chill, invigorating air that blows from the snow-fields beyond the Indus. No wonder that I was all eagerness to get to work on such an alluring site and uncover with pick and spade whatever might be left of its ancient secrets. But there were difficulties in the way I could not then foresee.

When I submitted my proposals to the Government, the Commissioner of the Rāwalpindi Division, in which part of the site is located, represented that Taxila was uncomfortably near the frontier, that there were many criminal elements in the local population, and that any disturbance of the ancient mounds might easily lead to trouble. And as the Local Government endorsed his views, there was nothing I could do but wait patiently for a more favourable opportunity. So for ten long years I waited; then Sir Louis Dane became Lieutenant-Governor of the Panjāb and less timid counsels prevailed. Today, with more than twenty years' intimate knowledge of the neighbourhood, I cannot but marvel that the people of Taxila should have been so little understood by our own officials. Of course there are unruly characters among them. Where on the North-West Frontier are there not? But for my own part I always found them sober, industrious and very genial folk, who were ever ready to greet one with a smile; nor do I remember having experienced, during all the years I was among them, any trouble worth the mention. Certainly I could not have wished for a steadier or more pleasant crowd of diggers than those who toiled with me at Taxila; and let us not forget that it is to the toil and sweat of the diggers that, first and foremost, we owe the vast majority of our archaeological treasures.

There can be few archaeologists now living who have devoted as many years to the excavation of a single site as I have devoted to Taxila. I started work there in the spring of 1913 and continued it almost every autumn and spring (the only seasons when digging is feasible) until 1934. The manifold discoveries made in the

course of those twenty-two years have thrown a flood of new light on the political and religious history of the North-West and in many respects revolutionised our knowledge of its material culture during lengthy periods between 500 B.C. and A.D. 500. They have shown us, often with tragic clearness, how during those centuries Taxila was time and again destroyed and then rebuilt by invaders from the East and West who successively made themselves masters of the Panjāb, notably by the Mauryas, the Bactrian Greeks, the Śakas, the Parthians and the Kushāns; and how it was left to the White Huns at the close of the fifth century to destroy the city finally and never attempt to rebuild it.

Not all these cities (there were not less than twelve of them) occupied the same site. The first four, including that of the Mauryas and its immediate predecessor, in which Alexander the Great took up his quarters, were located on the Bhiṛ Mound. Then, at the beginning of the second century B.C., the city was shifted from the Bhiṛ Mound to Sirkap and laid out on the typical 'chess-board' pattern then in fashion in the Hellenistic world and in striking contrast with the crooked streets and haphazard planning of the earlier cities of the Bhiṛ Mound. And this chess-board pattern was afterwards preserved in the later cities on the Sirkap site which the Śakas and Parthians erected on the ruins of the Greek. Finally, towards the close of the first century A.D., the city was again shifted by the conquering Kushāns from Sirkap to Sirsukh and laid out and fortified in conformity with their own traditional ideas, which differed materially from the Greek.

For the exploration of these various cities much remains to be done. It is a work, indeed, that may well go on for a century or more. My own efforts have been mainly concentrated on the remains near the surface, viz. on the Parthian city in Sirkap and on the Maurya city on the Bhiṛ Mound, but chiefly on the former. Wherever I could do so without sacrificing anything of value in the upper strata, I opened up small sections of the earlier settlements and so obtained a slight idea of their character and age, and of the structural remains and minor antiquities likely to be found in them. But the only city that I was able to excavate on a really extensive scale and on systematic lines was the Parthian, and it is from this city that the bulk of the antiquities described in the second volume of this work have come. Naturally it was a disappointment to me to find the Greek city buried so deep as to preclude for the present its more thorough exploration. But from an archaeological point of view the Parthian city is perhaps more valuable than the Greek will prove to be; for we know far more about the Hellenistic way of life than about the Parthian, and among the few Parthian cities that have been excavated in the Near or Middle East the one at Taxila takes the foremost place. This at any rate is the opinion expressed by that eminent authority on Parthian antiquities, Professor M. Rostoftzeff. Its value, too, is greatly enhanced by the remarkably rich collection of implements, tools, weapons, domestic utensils, ornaments, toilet articles, silverware, gold and silver jewellery, toys and other small objects which their owners had buried or abandoned in haste when the city was sacked by the Kushāns. For India, this collection of objects illustrative of the daily life of the

people is more than usually valuable, since it is *the only really representative collection of such objects belonging to the historic period that exists*, an observation which is true not only of the North-West but of the whole Indian peninsula.

Apart from all these excavations inside the cities' walls, much labour was also expended on exploring among the multitude of religious monuments in the suburbs or in the neighbouring hills and valleys, where their ruins occupy almost every available site. Prominent among these monuments and one of the earliest is the fine Ionic temple at Jaṇḍiāl, which may have been built (though this is by no means certain) for Fire worship. But, with this single exception, all the religious foundations which have so far been excavated outside the cities belong to the Buddhist faith and present us with a graphic picture, or perhaps I should rather say film, of the development of Buddhism during a most critical period of its history, from the first century B.C. to the fifth century A.D. Incidentally, also, they reveal for the first time the story of the two great schools of art in the North-West —the Gandhāra and the Indo-Afghān—and show how both flourished under Kushān patronage, the Gandhāra under that of the early Kushāns from V'ima Kadphises to Vāsudeva I, and the Indo-Afghān under that of the Kidāra Kushāns.

Much that is contained in these volumes has already seen the light of day in my *Annual Reports* published between 1913 and 1934, and is therefore more or less familiar to students. But I am sure that students will share my view that in a prolonged campaign of work such as I have carried through at Taxila *Annual Reports* however diligently they may have been prepared, are not enough. In such an excavation there comes a time when the entire body of data has to be re-examined and co-ordinated, and a comprehensive account of the whole put at the service of archaeologists and historians. Unless this is done, the labour of years will inevitably lose much of its value and scientific interest. And this is a task which only the excavator himself can adequately perform; for he alone possesses the requisite knowledge of the site and of the circumstances attending each individual find; and by virtue of his long familiarity with the subject he is in the best position to appreciate its problems and its pitfalls. I am not of course suggesting that an excavator can claim any more finality for his conclusions than others, or that he should be in any way more exempt from criticism. On the contrary, I hold that an excavator's first duty, after finishing his excavation, is to present fellow-students with the facts in such detail that they are left in no doubt as to the precise findspot and character of each and every object, and are thus able to form their own judgement on them. And I am equally strong in holding that he should endeavour, wherever possible, to preserve the structural remains he has uncovered until such time at least as they can be examined by other archaeologists with all the relevant facts in their possession. It is for these reasons that I have been at pains to save and conserve virtually all that could be saved of the Parthian city in Sirkap, though many of the buildings in it may seem to possess little intrinsic value; and that I now offer to fellow-students this final account of my discoveries, in the hope that they will find in it all that they want to know, or perhaps I should say all that I can tell them, about these

monuments and antiquities. Possibly some readers may think that the minutiae I have given, particularly in regard to the smaller objects, are in many cases superfluous. It may be that in nine out of ten cases they will prove to be so, but it is the tenth case for which one has to allow, and unfortunately one does not know which the tenth case is going to be.

The writing of this book has not been easy. Even in normal times and in the most favourable conditions the task of handling so large a mass of material, and particularly the many thousands of minor antiquities, would have been burdensome enough. It was made doubly so under the stress of failing health and the inevitable wear and tear of the Second World War, which, besides many other penalties, cost me the loss by 'enemy action' of more than four hundred pages of my records and notes. Some of these I was able to replace with the help of duplicates kept for safety's sake at Taxila; others I could not replace, and have had to fall back occasionally on my memory. For any shortcomings due to this loss, which affects in particular the latter part of chapter 4 and chapters 11, 13, 15, 16 and 38, my readers will, I am sure, be indulgent. I earnestly hope that they will also be indulgent in regard to the many other defects in this work, which are less excusable.

In bringing to a close an enterprise to which I have devoted some of the best years of my life, my thoughts go back to the many colleagues and friends who have helped and encouraged me during its long progress. To Mr Harold Hargreaves I owe a debt of gratitude which dates back to our early days together at Taxila, where he organised the first season's excavation and himself opened up the initial trial trenches in Sirkap. Since those far-off days in 1913, Mr Hargreaves has never ceased to take a warm interest in every fresh discovery, and has now put me under further obligations by contributing to these volumes the detailed description of the Gandhāra sculptures in chapter 36. I recall, too, with gratitude the willing and zealous service rendered over a long stretch of years by my excavation assistant, Khan Sahib A. D. Siddiqi, and by others who are no longer among us: by Mr Natesa Aiyar, who superintended much of the digging among the Jauliāñ group of monuments; by Mr Ghulam Qadir, an officer of untiring energy, who was particularly identified with the excavation of the Jaṇḍiāl temple and of the Giri and Dharmarājikā Stūpas; by Mr M. Gupta, until recently Curator of the Taxila Museum, where he was responsible for setting up, with endless patience and dexterity, the splendid array of stucco reliefs displayed on its walls; and lastly by my two talented draftsmen Messrs Sohan Lall and Gh. Sufi, who executed most of the drawings reproduced in this book.

Other scholars and scientists to whom I am much indebted for contributions to these volumes are: Professor F. W. Thomas and Dr L. Barnett, who kindly furnished the two notes on ancient Indian Universities in Appendix B to chapter 2; Dr B. S. Guha of the Ethnographic Survey and his colleagues, Messrs S. Sarkar and H. K. Bose, whose report on the skeletal remains from the Dharmarājikā monastery appears in chapter 12; the late Sir Robert Hadfield, who arranged for the analyses

of the specimens of iron and steel described in the Introduction to chapter 27; Mr Sana Ullah, the archaeological chemist, who supplied the analyses and notes on copper and bronze objects in chapter 28; Monsieur A. Foucher, who contributed the valuable observations on the Gandhāra sculptures to the Introduction to chapter 36; Dr R. B. Whitehead, who besides revising my catalogue of Rare and Unique Coins in chapter 39 has added a critical commentary on the most important among them; Mr E. H. C. Walsh, who has discussed in chapter 40 the two large hoards of punch-marked coins from the Bhir Mound; and Dr John Allan of the British Museum, whose illuminating remarks on the earlier coins down to the close of the Greek period form the subject of the concluding chapter. To Col. R. B. Sewell and Dr F. N. Pryce I am also under no small obligation: to the former for revising the catalogue of shell objects in chapter 33, to the latter for many helpful notes on the Hellenistic and Roman antiquities.

The many debts I owe to the published works of others are duly acknowledged in the text and notes, but there are two books to which I am in a special measure beholden. One is the first volume of the *Cambridge History of India*, in which the late Professor E. J. Rapson laid down a solid groundwork for the history of the Greeks, Śakas and Parthians in India; the other is Dr W. W. Tarn's brilliant and inspiring work, *The Greeks in Bactria and India*, which presents us for the first time with a really coherent and reasoned account of the same obscure period—an account for which I cannot sufficiently express my admiration, notwithstanding that in a few minor particulars I have ventured to question the author's conclusions.

Lastly, I wish to pay a tribute of lasting gratitude to my wife, who took part with me in all my excavations at Taxila and to whom the consummation of this work owes more than I can say.

JOHN MARSHALL

GUILDFORD
25 *November* 1945

POSTSCRIPT

APRIL 1951

To thank the Syndics of the Cambridge University Press for the way they have produced these volumes may seem almost superfluous, since their productions are invariably so excellent. I do, however, thank both them and the staff of the Press most warmly for all the care they have expended on this work; and I thank them also for the quite exceptional provision they have made for the illustrations, which but for their generosity must have been much curtailed, and for the excellent index, compiled by Dr Duncan Derrett, for which they made themselves responsible.

J. M.

STRUCTURAL REMAINS

Chapter I. TOPOGRAPHICAL

Situation of Takshaśilā (Taxila) on three great trade-routes

THE CITY of Takshaśilā or Taxila,[1] as it has more familiarly been known to Europeans ever since Alexander the Great's invasion of India, was situate at the head of the Sind Sāgar Doāb between the Indus and Jhelum rivers and in the shadow of the Murree hills where they die down into the western plain. To be more precise, it was a little over 20 miles north-west of the modern city of Rāwalpindi and close beside the railway junction of Taxila, where the main line of the North-Western Railway is joined by a branch line from Havelian in the Hāripur valley. Here also, in ancient days, was the meeting-place of three great trade-routes:[2] one from Hindustān and Eastern India, which was to become the 'royal highway' described by Megasthenes as running from Pāṭaliputra to the north-west of the Maurya empire; the second from Western Asia through Bactra, Kāpiśī and Pushkalāvatī and so across the Indus at Ohind[3] to Taxila; and the third from Kashmīr and Central Asia by way of the Śrīnagar valley and Bāramula to Mānsehra and so down the Hāripur valley. These three trade-routes, which carried the bulk of the traffic passing by land between India and Central and

[1] The correct name of the city was Takshaśilā in Sanskrit, Takkaśilā or Takhaśilā in the vernacular. The termination -śilā is also found in Chaḍaśilā, the ancient name of the Kālawān *saṅghārāma* described in chapter 14. Taxila was the abbreviated form used by Greeks and Romans, and from them commonly adopted by European writers. The name in Tibetan is 'rdo-ḥjog' meaning 'cut-stone' and it is not unlikely that Takshaśilā signified 'the city of cut stone'. According to the late F. C. Andreas, the name in Aramaic was Năggārūdā (lit. 'carpentry'—an Aramaic translation of Takshaśilā; cf. p. 165 *infra*). Others have taken the name to mean 'the Rock of the Takkas' or 'the Rock of Takshaka', the Nāga king. Cf. McCrindle, *The Invasion of India by Alexander the Great*, p. 343, and *Ancient India*, p. 33 n. 4. Fa Hien transcribed the name in Chinese as 'Chu-ch'a-shi-lo' or 'severed head' and adds by way of explanation that the Bodhisattva here gave his head as an act of charity (to the Brāhman Rudrāksha). For the legend, see Rajendralal Mitra, *Nepalese Buddhist Literature*, VIII, p. 310, and Beal, *Buddhist Records of the Western World*, bk. III, p. 138 n. 45.

[2] To-day the Grand Trunk Road from Calcutta to Peshāwar crosses the Mārgala spur at approximately the same spot as the old royal road, but then sweeps a little westward to cross the Indus at Attock instead of Ohind, and the Hazāra Trunk Road from Kashmīr through the Hāripur valley joins it at Hasan Abdāl, 7 miles from Taxila, instead of at Taxila itself.

[3] It has been argued that in the days of the Greeks the old royal road could not have crossed the Indus at Ohind (Udabhāṇḍapura) because the country on the south side of the river was mainly marsh or lake. This argument is disposed of by the fact that there are several ancient sites at no great distance from the river. One of these sites is at Nūrpur village, about 1 mile north of the Grand Trunk Road at mile 219. This site extends fully half a mile in each direction and, though partially covered by shifting sands, is easily recognisable. Then, at Sirka, about 1 mile north-east of Shāhdi Khān (which is 3 miles north-east from the junction of the Gondal-Hazro road with the Grand Trunk Road at mile 219½) I found an ancient site of no great size but containing many layers of habitations and yielding coins of the Greeks (Archebius), Śakas, Parthians and Kushāns. Further west from Sirka, about 3½ miles, is the village of Harun, which I did not visit but where a large site is indicated on the map and where antiquities are reported to be found; and a mile further on is Salem Khān, where Greek and Śaka and Parthian coins are unearthed and where there are other vestiges of early occupation.

Western Asia, played an all-important part in the history of Taxila, for it was mainly to them that the city owed its initial existence as well as its subsequent prosperity and greatness; and it was due to their diversion or decline, when trade contacts with foreign countries were interrupted, that Taxila sank eventually into insignificance.

Significance of trade-routes for early history of Taxila

This matter of trade-routes has an intimate bearing on the question of the date of Taxila's foundation. In the prehistoric days of the Indus civilisation, before roads and vehicular traffic had been developed, the urban population of the Panjāb was almost wholly dependent for its transport and communications on the navigable rivers, which flow generally in a direction from north-east to south-west, and it was only on the banks of those rivers that human settlements of any considerable size could be sustained. Not until wheeled traffic had come into common use and highways had been constructed across the broad doābs between the rivers, was it possible for a city like Taxila, which was reckoned by ancient writers to be three days' march from the Indus, to come into existence. When precisely this development took place we do not know, but it could hardly have been until well on in the second millennium B.C., when the Indo-Āryan conquerors had had time to settle down with the subject peoples, and a new and more advanced state of society had emerged from the union; and it may not have been until after the Achaemenid conquest, when the Panjāb was linked up with the great Persian empire, in which a far-reaching system of highways was indispensable to the administration. Ox-drawn wagons were no doubt as familiar in the Chalcolithic as horse-drawn battle chariots were in the Rigvedic period, but there is no evidence in either period of highways for trade and commerce having been built to supplement or take the place of the navigable waterways, nor is there anything in Rigvedic literature to suggest even that Indo-Āryan civilisation had reached a stage when such a development would have been possible. Needless to say, there is no reason why a village settlement of the early Āryan or pre-Āryan age should not have existed on the site of Taxila, though up to the present no trace of it has been found.

Natural advantages of its position

Apart from the debt which Taxila owed to its position on these trade-routes, the city enjoyed many natural advantages referred to by ancient writers. Arrian speaks of it as a great and flourishing city in the time of Alexander the Great—'the greatest of all the cities between the Indus and the Jhelum (Hydaspes)'.[1] Strabo says that the country round about was thickly populated and extremely fertile, as the mountains here begin to subside into the plain,[2] and Plutarch also remarks on the richness of the soil.[3] Hsüan Tsang writes in a similar strain of the land's fertility, of its rich harvests, flowing streams and fountains, abundant flowers and fruits and agreeable climate.[4] These eulogies were not exaggerated. This corner of the Panjāb, with the adjoining district of Hazāra, is to-day no less famous for its fruit gardens and crops than for its green, well-watered valleys, its impressive landscapes and invigorating climate. The particular valley in which Taxila stood is about

Description of valley

[1] Arrian, *Anab. Alex.* lib. v, 8. [2] Strabo, *Geogr.* lib. xv, 28. [3] Plutarch, *Alex.* LIX.
[4] Beal, *Buddhist Records of the Western World*, bk. III, p. 137; Watters, *On Yuan Chwang*, I, p. 240.

11 miles long by 5 miles wide at its mouth. Its average elevation above sea-level is between 1,700 and 1,800 ft. At its eastern end it is bounded by the Murree hills, which reach some 8,000 ft. in height; on its north and south, by two spurs from the Murree hills, viz. the Sarda (3,985 ft.) on the north, and the somewhat lower Mārgala spur on the south. Between these two spurs is a third and shorter one called Hathiāl—a rocky precipitous ridge of hard limestone formation, which divides the valley into two unequal parts, the larger on the north, the smaller on the south. The northern part is nowadays very rich in crops, being watered by the Haro river and several small streams which flow into it, as well as by numerous artificial canals taken off from its higher reaches. The southern part is less fertile, since it is intersected by deep ravines and broken by bare stony knolls, on many of which are the ruins of old-time stūpas and monasteries. Through this part of the valley and skirting the western foot of the Hathiāl hill runs the Tamrā or Tabrā nālā, a small tributary of the Haro, which is no doubt identical with the stream variously called Tiberonabo, Tiberoboam or Tiberio-potamos in classical authors.[1] Through the northern part of the valley, at its western end, flows the Luṇḍī nālā, another small stream which joins the Tamrā nālā before it reaches the Haro. The springs in the Mārgala spur which used to feed the Tamrā are said to have been closed by the Dharamśāla earthquake of 1905, since when its deep-cut bed has carried relatively little water except in the rainy seasons.

The Bhir Mound city

Near the western end of this valley and within $3\frac{1}{2}$ miles of one another are three separate city sites with several strata of remains in each. Each site has a distinctive character of its own. The oldest stands on a small plateau, known locally as the Bhir Mound, between the railway junction and the Tamrā nālā, above the bed of which it rises to a height of between 60 and 70 ft. From north to south the mound measures about 1,200 yards, and from east to west, at its widest point, about 730 yards. On its western and southern sides its edges have a fairly regular line, but on the east and north they follow the bays and bluffs above the Tamrā nālā, and in some of these bays, where the soil has been much eroded, it is no longer possible to trace the original position of the city's defences. The walls themselves were built of unbaked brick or mud, supplemented by timber, which has now perished. The lay-out of the city was haphazard, the streets for the most part being narrow and tortuous, and the house plans very irregular. According to local tradition, the Bhir Mound was the most ancient of all the sites at Taxila, and this tradition has been fully confirmed by my excavations, which show that this city had already been thrice destroyed and thrice rebuilt at higher levels before the Bactrian Greeks transferred it to the area now known as Sirkap on the east side of the Tamrā nālā. Of the four successive settlements on the Bhir Mound, the uppermost dates from the autonomous period, the second from the Maurya period, the third from the fourth century B.C., and the fourth from the fifth to the sixth century or earlier. As the Bhir Mound city stood at the entrance to the southern part of the valley, it was

[1] See Sylvain Lévi in *Journ. Asiatique*, tome XV (8me série), pp. 236-7; McCrindle, *Anc. India*, pp. 22 n. 2 and 33 n. 4.

natural that the Dharmarājikā Stūpa, the earliest of all the Buddhist monuments at Taxila, should also be erected in this part of the valley and that many other Buddhist monasteries and stūpas should afterwards arise in the same area, which thus became peculiarly consecrated to Buddhism.

Sirkap

The Sirkap city, built by the Bactrian Greeks in the opening years of the second century B.C., occupies the extreme western spurs of the Hathiāl ridge together with the small well-defined plateau on their northern side, and included in its northern suburbs the area called Kacchā Koṭ—from the fact that it was defended by earthen ramparts only, a section of which may still be seen enclosed within a bend of the Tamrā nālā. Excluding this suburb, the city's walls were nearly $3\frac{1}{2}$ miles long—a third again as long as those of the older city—and were built of solid, coursed stone rubble instead of mud brick. In accordance with Hellenistic principles of defence, they included within their perimeter a considerable area of hilly ground as well as an isolated acropolis, and in other respects the city was laid out on the typically Greek chess-board pattern, with streets cutting one another at right-angles and regularly aligned blocks of buildings. Notwithstanding that the city was several times destroyed and rebuilt and that many transformations were made in individual buildings, this Greek lay-out was on the whole well preserved down to the latest days of the city's occupation.

Sirsukh

The third city, now called Sirsukh, is situated still further to the north-east, on the further side of the Luṇḍī nālā. It dates from early Kushān times and is laid out in the traditional manner of Central Asian cities of that period with which the Kushāns were familiar. Its plan, that is to say, is roughly a parallelogram with a perimeter of about 3 miles,[1] and it is set well out in the open plain away from the hills. Like Sirkap, it is defended by massive stone walls, but the walls are faced with 'diaper' masonry (which came into fashion at Taxila in the middle of the first century A.D.) instead of coursed rubble, and strengthened on the outside by semicircular instead of rectangular bastions. Like Sirkap, also, it possessed a suburb on its western side, which is protected by a line of earthworks now called Treḍi Ghāṛ. Inside the city are three modern villages—Mirpur, Tofkiāñ and Piṇḍ Gākhṛā—built on the remains of ancient ruins, which can still be seen peeping out from under their houses.

Monuments outside the cities

Besides the remains of these three cities—the Bhiṛ Mound, Sirkap and Sirsukh—there are large numbers of isolated monuments, mainly Buddhist stūpas and monasteries, scattered about over the face of the surrounding country. The Buddhist remains are specially numerous in the southern half of the valley, where they occupy many of the barren knolls beside the Tamrā nālā, the oldest and most

The Dharmarājikā

conspicuous of them being, as already noted, the imposing Dharmarājikā Stūpa,[2] known locally as the 'Chir' or 'Split' Tope from the great cleft which former explorers drove through its centre. Among other Buddhist remains which I have

[1] Hsüan Tsang, who was in India between A.D. 629 and 645, says that the city was only 10 li in circuit, which would make the li equivalent to a little less than one-third of a mile, but Hsüan Tsang was notoriously inaccurate over his measurements.

[2] Map, Pl. 1, sq. 3C.

excavated in this part of the valley is a group of four *saṅghārāmas* situated a little to the south-east of the Dharmarājikā, and designated respectively 'Chir Tope A, B, C and D', B being also known locally as Akhauri and D as Khāder Mohṛā.[1] Then, on the northern slopes of the Mārgala spur on the other side of the valley, there is the very important *saṅghārāma* at Kālawān[2] (anc. Chaḍaśilā), the largest, after the Dharmarājikā, of all the Buddhist foundations at Taxila; and 2 miles along the same spur to the east is a big group of monasteries and stūpas hidden in a secluded glen at Giri[3] behind the villages of Khurram Prāchā and Khurram Gujar. At the same spot, also, is a small rocky fortress, which the Buddhists seem to have constructed as a refuge for the various communities of monks who were living in outlying settlements, where they were liable to be cut off by hostile raiders from the protection of the city. Both of these spots in the Mārgala spur were admirably chosen—as, indeed, were the sites of nearly all the Buddhist settlements round about Taxila; for, like the Christian monks of medieval Europe, the Buddhists had an unerring eye for practical amenities and natural beauty in selecting their sites, and one by one they possessed themselves of all the best spots—at first, within begging range of the city, but later, when begging had fallen out of fashion, at increasingly greater distances from it.

Chir Tope A, B, C and D

Kālawān

Giri

Of their many settlements among the rocky hills of the Hathiāl spur, all the most important were founded after the city of Sirsukh had taken the place of Sirkap. Two of them, indeed, which date from the third or fourth century A.D., were actually erected above the ruined fortifications of the old Sirkap city. These are the imposing stūpa and its attached monastery, which I have tentatively identified with the Kunāla Stūpa[4] described by Hsüan Tsang, and the subsidiary one on the hill at Ghai[5] immediately above it, close by the south-east corner of the fortifications. North-east from these, at a distance of between 2 and 3 miles, are the remarkably well-preserved *saṅghārāmas* of Mohṛā Morādu, Pippala[6] and Jauliāñ,[7] the first-named set in a cool and shady glen between the hills, the second in a retired spot at the northern foot of the spur, and Jauliāñ on an isolated hill-top half a mile or so beyond it. All three of these were within easy distance of Sirsukh and were first built not long after that city's foundation, but were extensively reconstructed and renovated during the Buddhist revival of the fourth to fifth centuries. Still further to the north-east, beyond the modern village of Khānpur and at a distance of over 9 miles from Sirsukh, is the hardly less interesting *saṅghārāma* of Bhamāla,[8] which is set amid the most impressive surroundings of them all, with hills girdling it on every side and the swift flowing Haro river at its foot. As we should naturally expect, this stūpa and monastery were not erected until the early medieval period, when proximity to the city was no longer a necessity.

Kunāla and Ghai Stūpas

Mohṛā Morādu, Pippala and Jauliāñ

Bhamāla

Speaking generally, ancient ruins like the foregoing, which are sheltered among the hills, have a much better chance of preservation than those in the open valleys

Relatively few monuments still existing in open valleys

[1] *Ibid.*
[2] *Ibid.* sq. 4 D.
[3] *Ibid.* sq. 4 E.
[4] *Ibid.* sq. 2 B.
[5] *Ibid.* sq. 3 B.
[6] *Ibid.* sq. 2 D.
[7] *Ibid.* sq. 2 E.
[8] Not included in the map.

or plains. That is because the latter are much more liable to be demolished to provide materials for near-by villages, or to be washed away by the floods (which at Taxila are at times exceptionally violent), or, if not washed away, to be gradually buried from sight beneath the alluvium which the floods bring down. Even since Sir Alexander Cunningham's day several of the monuments shown in his sketch map[1] have completely disappeared, while others can now only be traced by a few stones or an insignificant mound of earth; and if this has happened in the last few decades, we may be sure that multitudes of them had already vanished in the course of the fourteen centuries and more prior to Cunningham's visit. But, however many there may once have been, not more than half a dozen worthy of our notice are now to be seen in the whole wide sweep of valley between the Hathiāl and Sarda hills. These are: the small Buddhist monastery and stūpa at Lālchak outside the north-east corner of Sirsukh, and the much more imposing stūpa at Bādalpur[2] a mile due east of it; the fine Ionic temple at Jaṇḍiāl,[3] which fronts the northern entrance to the Kacchā Koṭ and Sirkap; two small stūpas,[4] now almost level with the ground, a couple of furlongs north of the temple; and finally—though this is not in the valley itself—the lofty and far-seen Bhallaṛ stūpa,[5] which occupies a prominent position on the last low spur of the Sarda hill beyond the Haro river to the north. Of these surviving monuments, the temple at Jaṇḍiāl was probably Zoroastrian, in any case not Buddhist; the two small stūpas to the north of it may have been either Buddhist or Jaina; the remainder were unquestionably Buddhist.

Buddhist remains at Lālchak and Bādalpur

Ionic temple and two small stūpas at Jaṇḍiāl

Bhallaṛ stūpa

Other mounds containing ancient remains

Such are the principal ruins now to be seen in and around the three cities at Taxila. With two exceptions, the Bādalpur and Bhallaṛ stūpas,[6] all these ruins were excavated by the author between the years 1912 and 1934 and are described in the following pages. Apart from them, there is, as the reader will perceive from the map on Pl. 1, a multitude of mounds, dotted here and there over the face of the country, the remains disclosed in which—generally nothing more than fragmentary foundations—did not prove of sufficient interest to merit description. A few of them, however, e.g. Rattā Piṇḍ,[7] Bajrān[8] and Hathiāl,[9] yielded coins and other

[1] *C.S.R.* II, Pl. LVII.
[2] Map, Pl. 1, sq. 1 E.
[3] *Ibid.* sq. 2 B.
[4] *Ibid.* sq. 1 B.
[5] Not included in map.
[6] The excavation of these two stūpas was carried out during my absence from Taxila by the late Mr V. Natesa Aiyar, Archaeological Superintendent, Frontier Circle. For the account of his work at Bādalpur, see *Annual Report, Frontier Circle* (1916–17), pp. 2, 3. The date assigned by him to the monument (latter part of third century A.D.) is too late. It was probably built very soon after the foundation of Sirsukh. For the Bhallaṛ Stūpa, see my *Guide to Taxila*, 3rd ed., pp. 140–2 and Pl. XXIV.
[7] Rattā Piṇḍ (Map, Pl. 1, sq. 1 B) is the mound called Seri-ki-Pind by Cunningham.
[8] Bajrān (*ibid.* sq. 1 C) is the same as Cunningham's no. 32, where he says there was in his day a small ruined stūpa in which the villager Nūr had found a circular stone box containing a crystal *haṁsa* or goose, in which was an inscribed gold plate recording that the gift was 'of Sira, depositing a relic of the Lord in the haṁsa of her mother, the haṁsa of her father. May it become its place, when a corporeal birth comes.' For a full discussion of the inscription, cf. Konow in *C.I.I.* II, pp. 83–6 and Pl. XVII, 1.
[9] The Hathiāl mound referred to is the flat-topped hill in the south part of Sirkap, elsewhere called the acropolis. It forms the last excrescence of the Hathiāl spur on the west.

small objects that have found a place in the Taxila Museum, and have accordingly been included among the antiquities catalogued in Vol. II. Without them and without the small objects from Bādalpur and Bhallar, the Museum Catalogue would not have been complete.[1]

Monuments described by Cunningham which have since disappeared

Stūpas at Shāhpur

Among the remains alluded to above which were described by Sir Alexander Cunningham but have since disappeared, four are deserving of particular notice. Two of them were stūpas, numbered 13 and 14 in Cunningham's *Report*,[2] which stood on the right bank of the Tamrā nālā opposite the village of Shāhpur[3] and about 3 furlongs south-west by west of the Dharmarājikā. Probably the stūpas were of no great size, but Cunningham has nothing to say about their structures, and the only thing he seems to have known about their contents was that an inscribed vase, now in the Peshāwar Museum, had come from no. 13 and an inscribed copper plate from no. 14. On palaeographical grounds both these records have been assigned to the middle or latter part of the first century B.C., when Śaka kings were ruling at Taxila, and they are thus the earliest Kharoshṭhī documents, apart from coin legends, that have been found at Taxila. From the vase inscription we learn that stūpa 13 'was erected at Takshaśilā by the brothers Sihila and Siharakshita, to the glory of All Buddhas';[4] from the copper plate, that stūpa 14 was erected by a certain meridarkh (whose name is effaced) and his wife 'as a respectful offering in honour of his father and mother'.[5] Though larger in their dimensions, these stūpas were probably similar in form to the small contemporary stūpas which stood in a ring around the procession-path of the Dharmarājikā.[6]

Shrines at Mohṛā Maliārāñ

The other two monuments are numbered 30 and 38½ in Cunningham's *Reports*. They stood on the left bank of the Tamrā nālā to the north of the village of Mohṛā Maliārāñ, the former about 100 yards, the latter about 700 yards from the village.[7] Plans and descriptions of both buildings are to be found in Cunningham's *Reports*,[8] but, as these may not be accessible to the reader, I have reproduced his plans and given a summary of his descriptions in the Appendix to this chapter. Here I need only remark that both buildings were large and evidently important shrines, unlike any others known to us in the North-West. No. 30 was adorned with Ionic columns similar in design and material to those of the neighbouring Jaṇḍiāl temple, with which it was no doubt approximately contemporary.[9] In the absence of information as to the character of its masonry, the date of no. 38½ must remain conjectural, though there are reasons for inferring that it, too, was built about the same time. Among the minor objects which Cunningham found in the ruins of no. 30 were

[1] The names of the various sites from which the antiquities have come, are given with abbreviations at the beginning of this volume.

[2] *C.S.R.* II, Pl. LVII and pp. 124–5.

[3] Map, Pl. I, sq. 3C.

[4] Cf. *C.I.I.* II, p. 87.

[5] *Ibid.* pp. 4 5.

[6] Cf. pp. 240 ff. *infra*.

[7] No. 38½ is not shown in Cunningham's plan, but is described in his *Report*, V, pp. 72–3. It stood in the bend of the Tamrā nālā, 500 yards due west of the Jaṇḍiāl temple C; Map, Pl. I, sq. 2B.

[8] Vol. II, p. 129 and vol. V, pp. 68 73 and Pls. XVII–XIX.

[9] Cf. pp. 222–3.

some Buddhist images of stucco, but these images, which belong to a later age, afford no proof that the shrine was originally erected by the Buddhists.

The kingdom of Taxila

In concluding this brief introductory chapter it remains to add that the kingdom of Taxila, of which this city was the capital, appears to have been normally coterminous with the Sind Sāgar Doāb, i.e. it was bounded on the north by the mountains of Kashmīr, on the west by the Indus, and on the east by the Jhelum and the lower reaches of the Chenāb, including the Panjnād, though the courses of these rivers were in all probability slightly different from what they are to-day. Thus the kingdom comprised the modern districts of Rāwalpindi, Jhelum, Miānwāli and Muzaffargarh, as well as the lowlands of Hazāra and those parts of Shāhpur and Jhang which lie west of the Jhelum. This seemingly was the extent of the kingdom when Alexander invaded the Panjāb, as it was also the extent of the original satrapy of Philip son of Machatas east of the Indus, a satrapy that was later enlarged by the addition of further conquests east of the Chenāb. This, too, in all probability was the extent of the kingdom during the brief period of autonomy following the break-up of the Maurya Empire, though it is possible that it was then divided into several more or less independent republics. Under foreign rule its boundaries varied greatly. Thus, under the Bactrian Greeks who made their capital at Taxila, the kingdom embraced at times the Peshāwar and Kābul valleys as far as the Hindu Kush; under the Śakas and Parthians it formed the heart of still larger realms on both sides of the Indus; under the Mauryas and Kushāns it was an integral part of vast and far-flung empires. But throughout its long history the term 'kingdom of Taxila' naturally meant the Sind Sāgar Doāb, and it was in this sense doubtless that it was used by Hsüan Tsang in the seventh century A.D., when it was part of the larger state of Kashmīr.

Appendix

SHRINES A AND B AT MOHṚĀ MALIĀRĀÑ

The following description of these two shrines, which no longer exist, is condensed from Cunningham's *Report*, *C.S.R.* v (1872–3), pp. 68–73.

This shrine stood on high ground on the left bank of the Tamrā nālā about 100 yards north of the modern village of Mohṛā Maliarāñ. Little except its foundations appears to have been found *in situ*, but in the debris were some bases and capitals of stone Ionic pillars and a number of stucco fragments of Buddhist images. Cunningham's plan of the foundations is reproduced on Pl. 120A. The shrine, which was 91 × 64 ft., stood on a raised terrace which projected about 15 ft. on all sides of the building. The presence of numerous fragments of plaster images on this terrace at the back of the shrine led Cunningham to conclude that the terrace supported a roofed cloister or colonnade, which surrounded the shrine like a *pradakshiṇā*. This may have been so, though no value can be attached to the evidence adduced by Cunningham. The shrine comprised four rooms, namely: an entrance hall or antechamber (A), 39 ft. 6 in. wide by 20 ft. 1 in. deep, with a small room (BB), 20 ft. 1 in. by 15 ft. 9 in., at either end, and a larger hall or sanctum (C) at the back, which measured 79 × 23 ft. 6 in. internally. Shrine A

The entrance to the shrine was in the middle of the eastern side, where four massive sandstone columns appear to have supported a lofty portico, the purpose of which may have been to admit additional light into the interior. In the inner hall or sanctum (C) were the foundations of two more columns, which in Cunningham's view probably supported a canopy over an image placed against the middle of the back wall. Round the inside of this hall ran a continuous bench or pedestal, 2 ft. high by 4 ft. 8½ in. broad, intended presumably for statues, of which many fragments were found in the hall.

The design and dimensions of the Ionic pillars are shown in Pl. 120A. All the bases found by Cunningham were of sandstone, like those of the great Jaṇḍiāl temple (p. 223). On the other hand, the fragments of such capitals as were recovered were of rough kañjūr stone, originally covered with plaster. Cunningham took the capitals and bases to be contemporary and concluded that the former represented a more primitive type of Indian Ionic than was previously known to him; but the true explanation, no doubt, is that the columns were originally made entirely of sandstone, that the shrine was subsequently destroyed, probably by the great earthquake in the first century A.D., and that, when it was restored, the upper parts of the columns were found to be too damaged to be used again and were therefore roughly blocked out of kañjūr stone and their details finished in plaster.

The plaster statues found within the shrine were described by Cunningham as being 'all Buddhist with curly hair and hands in the lap or raised in the attitude of teaching'. No illustrations of these statues accompany Cunningham's *Report*, but his description points to their having belonged to the late Indo-Afghān School rather than to an earlier period. In any case, their presence proves no more than that the shrine was in the possession of the Buddhists at the period to which they appertain, not that it was originally built by them; nor can we assume that the continuous bench round the inside of the shrine was part of the original design. In the case of the great Jaṇḍiāl temple there is clear evidence to show that the raised dais in the sanctum was a later addition, and the same may have been the case with the bench in this shrine.

Under the front edge of this bench, at the point indicated on the plan, Cunningham discovered twelve copper coins of Azes, which he thinks were deposited there at the time the bench was constructed, and as, in his opinion, the bench was contemporary with the rest of the building, he argues that the temple dated from the reign of Azes, which he placed at about 80 B.C. It should, however, be observed that: (*a*) the floor of the temple shown in Cunningham's section is demonstrably a later floor added at some time subsequent to the building of the bench; (*b*) the group of twelve coins was found immediately under the front edge of the bench, where they might easily have been hidden at any time after its construction; (*c*) Cunningham does not give any particulars of the coins and we do not, therefore, know whether they were issues of Azes I or Azes II. If the former, they may have dated from the first century B.C., but several types of Azes I continued to be struck during the reign of Azes II in the first century A.D. and were current for a considerable time afterwards.

The only safe conclusion that can be drawn from this coin deposit is that the shrine was already in existence when the coins were hidden, but whether the shrine had been built by the Greeks or Śakas is an open question. That the coins were a foundation deposit there is not the slightest reason to suppose. The probability is that their owner hid them where he did merely because that happened to be a convenient hiding-place; he himself may possibly have been killed when the original shrine was destroyed (? in the first century A.D.), but that, of course, is sheer surmise.

Shrine B The other shrine (B) which has disappeared also stood high on the left bank of the Tamrā nālā, but about 700 yards further to the north and due west of the Jaṇḍiāl temple. It was a square structure, 75 ft. each way, surrounded by a walled enclosure or terrace, 122 ft. square. The shrine was provided with four entrances, one in the middle of each side, and contained seven chambers, the disposition of which will be clear from the plan (Pl. 120 A). The main entrance, which faced east, opened into the long ante-room A, 64 × 18 ft., with a large image-niche (C) in the middle of the back wall opposite the entrance. To right and left of the niche was a doorway leading into the sanctum B, 41 × 21 ft., round the inside of which ran a continuous image bench (S.S.) similar to the one in the sanctum of Shrine A. The two entrances in the north and south sides led into the small lobbies D D, which in turn gave access to the ante-chamber A on the east and to the two corner rooms M M, each upwards of 17 ft. square, on the west. The fourth entrance, in the middle of the west face, opened into room E, 24 × 17 ft., which had no internal communication with the rest of the building. Externally, the walls of the shrine were relieved with four broad buttresses (P.P.P.) on each face, but the excavator did not succeed in finding any part of their bases or capitals, nor does he mention any statues or other small objects as having been unearthed amid the ruins.

Apart from room E, the accommodation provided in this shrine, though differently disposed, is much the same as that in Shrine A, and it looks as though this building may represent a later and more developed form of that structure. But in the absence of any information about the character of its masonry, as to which Cunningham is quite silent, the date of Shrine B must remain problematical.

Chapter 2. HISTORICAL

Legendary history

IN early Indian literature Taxila was given a legendary history which went back to the remotest antiquity. The *Rāmāyaṇa*, which has a glowing account of its wealth and magnificence, tells us that it was founded at the same time as Pushkalāvatī in Gandhāra by Bharata, son of Kaikayi and younger brother of Rāma, who installed two of his sons as rulers in the two cities: Taksha in Takshaśilā and Pushkala in Pushkalāvatī.[1] The *Mahābhārata* relates that the city was conquered by king Janamejaya of Hāstināpura, who performed there the great snake sacrifice—the whole of the famous epic being recited during the performance.[2]

In Buddhist literature, and particularly in the *Jātakas*, Taxila is often referred to as a seat of learning and the home of world-famous teachers.[3] According to the *Dīpavaṁśa*,[4] one of its early kings was Dīpaṅkara, a Kshatriya, who was followed on the throne by twelve sons and grandsons. The *Avadāna-kalpalatā*[5] also alludes to another of its kings, Kuñjarakarṇa by name.

But it was reserved for the Jains to make the most extravagant claims as to the age of the city. For they relate that millions upon millions of years ago Taxila was visited by Rishabha, the first of the Tīrthaṁkaras, and that the footprints of the saint were consecrated by Bāhubalī, who erected over them a throne and 'wheel of the law' (*dharmacakra*). The wheel, they say, was several miles in height and circumference.[6]

No structural remains of prehistoric date at Taxila

The truth disclosed by the hard facts of excavation is much more sober. The earliest of the remains uncovered on the site go back no further than the sixth century B.C. or thereabouts. If any settlement of the Stone, Copper or Bronze Age ever existed at this spot, it has yet to be unearthed. The only objects of a definitely prehistoric character hitherto brought to light are a few polished celts and a mace head; and these were found in strata which cannot be referred to an earlier period than the second or first century B.C. How these primitive artefacts found their way into such late strata is a matter for conjecture; it is significant, however, that four out of five of them are made of rare and particularly fine varieties of stone, viz. green epidiorite, epidote quartz, nephritic jade and blue serpentine ('Stone Objects', ch. 25, nos. 1–5), and it seems more than likely, therefore, that they were preserved simply as curiosities or talismans, though

[1] *Rām.* VIII, 101, *vv.* 10–16. Cf. *Raghuvaṁśa*, XV, *v.* 89.

[2] *Mbh.* Ādiparva III, 20.

[3] A long list of references is given in Fausböll's ed. of the *Jātakas*. Cf. also *Mahāvagga*, VIII, *vv.* 5–6; *S.B.E.* XVII, pp. 174–5; *Dhammapadatthakathā*, I, p. 250.

[4] P. 28.

[5] LIX, *vv.* 59–61.

[6] *Āvaśyakaniryukti* of Haribhadra Sūri, leaf no. 150; *Trishashṭhiśalākapurusha-charitra* of Hemachandra Sūri (Gaikwad Oriental Series, Baroda, 1931), vol. LI, pp. 183–6; *Darśanaratnaratnākara* of Siddhāntasara, leaf nos. 197–8.

another possible explanation is that stone celts such as these continued to be used for sacrificial or other ceremonial purposes long after the Stone Age had passed away.

Earliest settlement of sixth century B.C.

As to structural remains, the oldest that I have so far unearthed at Taxila are the ruins of rough stone buildings in the lowest (fourth) settlement on the Bhir Mound. These buildings belong definitely to the Iron Age and are referable, in all probability, to the close of the sixth century B.C., though the noticeably rough and massive character of their masonry, which is in marked contrast with the smaller and neater masonry of the fourth-century stratum immediately above them, may point to a somewhat earlier age. Assuming, however, that the suggested date is correct, it would follow that this, the earliest settlement on the Bhir Mound, was little, if at all, older than the invasion of Darius I (518 B.C.); and it may even be plausibly conjectured, though there is no tangible evidence to support the conjecture, that Taxila owed its foundation to the Persian conqueror.[1]

Irregular planning of streets and buildings in oldest settlements probably attributable to Indo-Āryans

From first to last the ruined cities on the Bhir Mound—including these early remains—are distinguished by a markedly irregular and haphazard planning of their streets and buildings, which is in sharp contrast with the relatively symmetrical lay-outs that one finds in the later Yavana cities at Taxila. This feature is of particular interest because it seems to dispose fairly effectually of the theory advanced by the late E. B. Havell that the lay-out of towns and villages on the chess-board pattern, with streets running parallel or at right angles to one another, is attributable to Indo-Āryan inspiration. If there is one city above all others where we might expect to find evidence of Indo-Āryan influence, that city is surely Taxila; yet, as we shall presently see, there is no trace here of methodical town-planning until we come to the city of the Bactrian Greeks in Sirkap, which is laid out on virtually the same lines as other Hellenistic cities of the period. Somewhat similar methods of town-planning had been followed, some three thousand years earlier, in the pre-Āryan cities of Mohenjo-daro and Harappā, and it is possible that the rules on the subject which are expounded in the medieval *Śilpa Śāstras*, were derived from a pre-Āryan source going back to a remote antiquity. In the case of the Yavana cities of Taxila, however, there can hardly be a doubt that the source was a Hellenistic one. In any event it is clear that the Āryans could have had nothing to do with it. If any type of planning is attributable to them, it can only be the irregular and haphazard planning of the cities on the Bhir Mound.[2]

rather than to the Persians

Assuming that the original city on this site was founded under Achaemenid rule, it might perhaps be argued that the irregular character of its streets and houses was due to the slipshod methods of Persian builders, the precedent which they set being subsequently copied by the local Indians down to the time of the

[1] The extent of the lowest settlement has yet to be determined. It may prove to have been substantially smaller than the cities subsequently built above it, which covered the whole of the Bhir Mound. But whatever its size, there is no reason for referring it to a date earlier than the sixth century B.C.

[2] For the minor antiquities associated with this earliest settlement on the Bhir Mound, see ch. 3, pp. 101–11.

Bactrian Greeks. That, indeed, is a possibility but only a remote one. In any event, whether the Achaemenid rulers had a hand in the original foundation or not, it is obvious that the Āryanised Panjābis of that time could have known no more about systematised town-planning than did their conquerors; else they could hardly have failed to impress their knowledge upon the latter.

Character of Persian administration

To what extent the Persian domination made a durable impression upon the conquered Indian peoples there is not much evidence to show. The eastern conquests of Cyrus the Great (558–530 B.C.) seem to have embraced Bactria, Kāpiśa and Gandhāra, and those of Darius I, which were achieved about 518 B.C., Sind and the Eastern Panjāb. The latter were comprised in the twentieth, or Indian, satrapy mentioned by Herodotus (III, 94), and it is to this satrapy, said to have been the richest of all in the Persian Empire, that Taxila belonged.[1] The administration of this and the other satrapies was as highly centralised as the vastness of the Achaemenid empire would permit. Supreme head of it all was the Great king, king of kings, to whom the satraps or governors of provinces were responsible. The satraps were usually of noble birth, sometimes members of the old ruling families, now owing allegiance to the Great king, and they held office for an indefinite period, not infrequently for life.[2] Among their chief duties were the preservation of law and order, the collection of taxes and remission of the tribute due to the central treasury, the execution of the king's decrees and the maintenance of the royal high roads in a state of security.[3] For enforcing his authority the satrap had at his disposal a local army, with a certain proportion of Persian officers and troops, but the regular army of the district and the fortresses were commanded by royal officers directly responsible to the Great king. As further checks, moreover, on the loyalty and efficiency of the satraps, a royal secretary was attached to each to attend to correspondence with Susa, and periodic inspections were made of the provinces by a special emissary—often a near relative of the king.[4] The Achaemenid sovereigns do not, however, seem ever to have risked impairing their own authority by sharing it with their sons or brothers, as the Greek, Śaka and Parthian rulers subsequently came to do. Once the settlement of a conquered country was complete, the policy of Darius, which was worthily sustained by his successors, seems to have been neither harsh nor intolerant. All subject peoples alike were, of course, liable to military service, not only in their own satrapy but wherever the king might be at war, and thus Indians found themselves fighting side by side with Jews, Egyptians, Greeks, Armenians, etc.; a heavy tribute, too, was exacted, but it was based on a systematic survey of the

[1] On the subject of the Indian Provinces, see *C.H.I.* vol. I, ch. XIV, p. 427, and E. Herzfeld, *Memoirs of the A.S.I.* no. 34.

[2] In some provinces, as in Cilicia and Caria, the office of satrap became hereditary, the satraps being members of the former ruling houses. *C.A.H.* IV, p. 196.

[3] The royal high roads were indispensable for the rapid movement of troops as well as for trade, and much stress was laid on their proper upkeep. They were measured by parasangs (3¼ miles) and there were posting stations and *sarais* at intervals of 4 parasangs. *C.A.H.* IV, p. 193.

[4] *Ibid.* p. 198.

country and its wealth.[1] On the other hand, much consideration was shown to established customs and religious practices; members of the conquered peoples were preferred to high civil and military posts and came in for a share of land-grants and other rewards; and much was done by the encouragement of trade and commerce and the safeguarding of the high roads for the welfare and prosperity of the country.

Growth of satrapal power and dismemberment of Persian empire

As the Achaemenid empire declined, the satraps took command of the local armies in addition to their other duties, and became increasingly powerful, with the result that by the first half of the fourth century B.C. (under Artaxerxes II, 404–359 B.C.) large parts of the empire were asserting their independence. It was in this period that Taxila and the other Indian Provinces appear to have thrown off the Achaemenid yoke.

Preservation of satrapal system under the Seleucids

Eparchies, hyparchies and meridarchies

When the Persian empire passed into the hands of the Seleucids the satrapal system was preserved, but the title of '*strategos*' seems to have been generally substituted for that of 'satrap', and the administration was further decentralised by dividing each satrapy into several eparchies,[2] which thenceforth became the chief administrative unit.[3] But in its main essentials the satrapal system, which figures so prominently in the early history of Northern and Western India, was a Persian institution, and perhaps the most important legacy of its kind which, directly or indirectly, the Achaemenids bequeathed to India.

Earliest coinage at Taxila struck on Persian standard

Evidence of the close commercial relations which were established under Achaemenid rule between North-West India and Persia is seen in the fact that a very early type of silver coinage, found only in this part of India, was struck on the Persian standard, the pieces being equivalent to double *sigloi* or staters, half and quarter *sigloi*;[4] and that approximately the same Persian standard seems to have

[1] According to Herodotus (III, 94 *sq.*) the annual tribute exacted by Darius from the Indian satrapy was 360 talents of 'ant-gold' dust, equivalent to 4,680 Euboic talents of silver. The amount, which is out of all proportion to the tribute received from other satrapies (e.g. Babylon, 1,000 talents; Egypt, 700 talents), is in all probability grossly exaggerated. On the subject of 'ant-gold' much has been written, but the last word has yet to be said. Tarn (*The Greeks in Bactria and India*, pp. 106 *sqq.*) takes the view that not one ounce of ant-gold ever originated in India, and that the only native gold of any account came from the washing on the Upper Ganges and its tributaries; he infers, therefore, that the North-West got its gold from Siberia, though how remote Siberia was paid for the large amount of gold required he does not endeavour to explain. Moreover, he leaves out of account the potential sources of supply in the Dekhan, Madras and the Mysore, the last of which had certainly provided gold for Sind and the Panjāb in prehistoric times and still supplies some £2,000,000 worth of the metal annually. Tarn is also wrong in regard to Tibet, the rivers of which still yield a substantial amount. This at least was told me personally by the late Dalai Llama, who made an offering of some gold dust from one of them to the relics of the Buddha unearthed at Peshāwar. See also pp. 619–20; B. Laufer, *Die sage von den goldgrabenden Ameisen*; T'oung Pao, IX (1908), p. 429.

[2] The eparchy may possibly have been Achaemenid but was more probably Seleucid. *C.A.H.* IV, p. 1.

[3] Cf. Tarn, *op. cit.* p. 242. There is no evidence that the practice of dividing the satrapy into eparchies and hyparchies was ever introduced into India, though some divisional officers were called 'meridarchs'. In India the title '*strategos*', which was borne by one chief only (Aśpavarma), seems to have been distinct from that of 'satrap'. See p. 40 and n. 3.

[4] Allan, *B.M. Cat. of Indian Coins*, pp. xv–xvii, and clxi–clxii. The larger pieces weigh 172–7 grains, the same as the Persic staters of the Achaemenid governors of Lycia, Cyprus, etc., belonging to the first half of the fourth century B.C. Bhandarkar's view that these pieces may have an Indian origin is discounted by the fact that they are found only in the North-West.

been preserved in certain of the silver 'punch-marked' coins (*kārshāpaṇa*) of a somewhat later date, which were struck in this same area and are substantially heavier than the generality of 'punch-marked' coins current in the Maurya empire.[1]

Use of Aramaic script at Taxila and evolution of Kharoshṭhī from it

Another not unimportant legacy that the Achaemenids bequeathed to India was of a literary kind. As a medium for official communication throughout the empire the government of Susa had adopted Aramaic speech and writing, both of which had been used in Babylonia and Assyria side by side with cuneiform, and in this way the Aramaic alphabet—and to some extent, no doubt, the Aramaic speech—came to be employed by the native population at Taxila and in the North-West. Since, however, the alphabet in question was inadequate to express all the sounds of the local Prākrit language, various additions and modifications were introduced into it, and this led to the gradual evolution of the Kharoshṭhī script, which first makes its appearance in the inscriptions of the emperor Aśoka (third century B.C.) on the North-West Frontier and was still in use at Taxila as late as the fifth century A.D. (pp. 374–6 *infra*).[2]

An Aramaic inscription of Maurya date in Sirkap

That Kharoshṭhī was derived from Aramaic was surmised by Bühler as long ago as 1895, and confirmation of his surmise has been furnished by the discovery of an actual Aramaic inscription built into the walls of a house in Sirkap.[3] So far as it can be read in its present mutilated condition, this record appears to have been composed in honour of a certain high official named Rōmēdōtē, who owed his advancement to the patronage of the viceroy or governor, Priyadarśi. Now we know of one person, and one only, who uses the title 'Priyadarśi' virtually as his name. That person is Aśoka; and it is natural, therefore, to identify the Priyadarśi of this record with the Maurya prince who at the time this inscription was set up would have been ruling Taxila as viceroy on behalf of his father Bindusāra. If this identification is correct, we must conclude that the inscription dates from a short time previous to 274 B.C., when Aśoka ascended the throne of Magadha, and we must also conclude that Aramaic continued to serve as an official language at Taxila long after that city had ceased to be part of the Persian empire. There is a possibility, however, that the title 'priyadarśi' was used by Aśoka's predecessors as well as by himself, but in any case the title, which is an Indian one, could hardly have been used by a Persian governor, and we can be fairly certain, therefore, that the inscription is not earlier than the reign of Chandragupta Maurya.

Influence of Persian art in the North-West

As to the influence of Persian art on India, the view has commonly been taken that the art of the Achaemenids was an artificial creation made up of a variety of exotic elements for the glorification of the ruling power, and that, because it was not really rooted in the soil of the country, it failed to outlive the brief empire that gave it birth or to exercise any appreciable influence in neighbouring lands of the Middle East. Speaking generally, this view of Achaemenid art is no doubt near

[1] The heavier type averages about 57·5 grains, equivalent to ⅓ of the Persic stater; the lighter Indian type averages about 51 grains. Allan, *op. cit.* p. clxii, par. 201, and p. 44 n. 39.

[2] Cf. *C.I.I.* II, pp. xiii *sqq.* With the spread of Indian immigration and Buddhism to Turkestān Kharoshṭhī also found its way to that country.

[3] Cf. pp. 164–6 *infra.*

to the truth, but in so far as India is concerned, it needs some modification. No example of Indo-Persian or Indian art of the Achaemenid period is known to us, but in the art of the Early Indian School of Hindustān and Central India, still more in the art of the Gandhāra School, we are met at every turn by architectural and sculptural elements which are obviously traceable to a Persian origin. We have no means, however, of determining how or when these elements found their way to India. The most natural assumption, perhaps, is that the bulk of them came direct from Irān in the fifth and fourth centuries B.C., when Gandhāra and Taxila were under Achaemenid rule. On the other hand, it is equally likely that many of them were introduced *via* Bactria either during the following century, when the Maurya empire extended to the confines of that country, or during the second and first centuries B.C., when the Graeco-Bactrian kingdoms reached as far east as the Jumna river and when Graeco-Iranian culture was brought into the very heart of Hindustān. We must also take into account the possibility that, so far as the School of Gandhāra is concerned, some of these Iranian motifs may have been introduced under Śaka-Parthian rule, when there was a notable revival of Yavana and Western Asiatic art. While, therefore, there is no question of the substantial debt which Indian art at this period owed to Persia, we must be careful not to jump to the conclusion that the Persian contribution was necessarily a direct result of Achaemenid rule in the North-West.

Exposure of dead to the vultures an Iranian custom

Before leaving this subject of Persian influence, it remains to note that among the local customs of Taxila described by the Greek writers who accompanied Alexander the Great, that of exposing the dead to the vultures[1] was of Iranian origin, and one of the distinguishing features of the Magian, as it still is of the modern Parsi religion. It might reasonably be inferred, therefore, that the practice was one that had been introduced at Taxila by Persian settlers in the fifth and fourth centuries B.C., among whom there must have been many adherents of the old daivayasnian cults. But here again we cannot be quite sure of our ground, since a practice of this kind may obviously have derived from a more remote age when the cultures of Iran and India were more intimately connected.

Duration of Persian rule at Taxila

How long Persia retained possession of Taxila and her other Indian territories is not known for certain. That she was still exercising some measure of suzerainty over them as late as 330 B.C. has been inferred from the fact that in that year Darius III made use of Indian troops at the battle of Arbela.[2] It is significant, however, that the historians of Alexander make no mention of any Persian officials south of the Hindu Kush; nor is there anything in their accounts of the Indus valley, Gandhāra and Taxila to imply that those areas were at that time other than completely independent. From this it seems fairly safe to conclude that the Achaemenids must have lost control of their Indian possessions some time pre-

[1] Strabo xv, c. 714 = Aristobulus, frag. 34. Cf. *C.H.I.* 1, pp. 415–16. The custom seems to have prevailed in the plains of the Oxus and Jaxartes (according to Onesikritos, among the Sogdians and Bactrians; according to Trogus, among the Parthians) rather than on the Iranian plateau. Cf. Herzfeld, *Iran in the Ancient East*, p. 217.

[2] *C.H.I.* 1, p. 341.

viously—probably during the reign of Artaxerxes II[1]—and that the Indians who fought at Arbela had been recruited as mercenaries rather than as official levies.

Invasion of Alexander the Great and submission of king Āmbhi (Omphis)

Alexander the Great descended on the Panjāb in the spring of 326 B.C. He came, primarily, to assert his claim to the lost provinces of the Achaemenid empire. That he pushed his conquests beyond the limits of that empire was due partly to political necessities, partly to his ambition to reach the Eastern Ocean, which he imagined to be much nearer than it really was. At the time of his invasion Northern India was parcelled out into a number of independent states, some, like Takshaśilā, with monarchic, others, like the Kathaioi and Malloi, with oligarchic or quasi-democratic constitutions. Āmbhi (Omphis), the king of Takshaśilā, was already at war with the Paurava king (Porus) beyond the Jhelum, and now, with another and still more powerful invader threatening him from the west, he deemed it safest to ally himself with the newcomer against his ancient rival. Accordingly, in the preceding year and while still heir-apparent,[2] he had sent messengers to Alexander, who was then in Sogdiāna, offering to side with him against any Indians who might oppose him, and subsequently, when Alexander was crossing the Indus, he again sent to say that he surrendered his kingdom into his hands and himself went out to meet him in state at the head of his forces, which he formally placed at the disposal of the king.

Alexander at Taxila and appointment of Philip as satrap

Alexander accepted the gifts which Āmbhi had brought—elephants, bulls and sheep in large numbers—and confirmed him in his sovereignty. At Taxila itself there followed lavish hospitality on the part of Āmbhi and a further interchange of munificent gifts, those from Āmbhi, which were returned by Alexander, including eighty talents of coined silver, and those from Alexander a thousand talents of gold and a vast array of textiles and gold and silver vessels brought among his spoils from Persia. Alexander then celebrated the customary Greek sacrifices and games, received embassies from the rāja of Abhisāra[3] and other chiefs, and soon afterwards marched eastward to attack Porus, taking with him 5,000 troops furnished by Taxiles. Before his departure he appointed Philip,[4] son of Machatas, as satrap at

[1] *Vide supra*, p. 14.

[2] The Greek accounts are not altogether clear, but it seems that Taxiles, the father of Omphis, had shown more hesitation than his son in throwing in his lot with Alexander, and the latter had therefore made overtures on his own responsibility to the invader. Taxiles, the father, however, had complied with Alexander's order, sent from Nicaea, to come and meet him west of the Indus, and had subsequently returned to the Indus with the division of the Macedonian army under Hephaestion and Perdiccas. Whether he died on the march or after his return to Taxila we do not know, but evidently Omphis had not yet been crowned when Alexander reached the Indus, and he professed to be postponing the ceremony until he could receive his kingdom from Alexander's own hand. Along with the crown he also assumed the dynastic name of 'Taxiles', which his father had borne. (Q. Curt. VIII, 12; Diod. XVII, 86.)

[3] Corresponding with the Pūnch and Naoshera Districts of Kashmīr. *C.H.I.* I, p. 349.

[4] This may have been the same Philip who had been left in command of a Macedonian garrison at Pushkalāvatī in Gandhāra and was now made satrap over the newly conquered districts of the Panjāb as well as Gandhāra. His satrapy was at first coextensive with the kingdom of Taxila, i.e. with the Sind Sāgar Doāb, plus the lowlands of Hazāra, but eventually included the Rechna and Bari Doābs as far south as the confluence of the rivers.

Taxila with a garrison consisting of Macedonians and mercenaries as well as a number of invalid soldiers.

Position of Philip

What precisely were the powers with which Philip was invested we are not told. He is called 'satrap' by Arrian and Plutarch, but the term may have been loosely used. Under the early Achaemenids Philip would presumably have been commander of the royal garrison and Taxiles himself would have been virtually a local satrap. No doubt Philip's primary duty was to secure Alexander's rear and provide against any danger of rebellion; though he must also have been responsible for forwarding to the royal treasury such tribute, if any, as may have been imposed on Taxiles. If, however, the latter's sovereignty had any real meaning, Philip could hardly have been a satrap in the old sense of the term, though his position of local army commander may have been sufficient warrant for the title, since in the declining years of Achaemenid rule the satraps had, as we have seen, usurped command of the royal garrisons—a fact which helps us to understand why, under the Seleucids, the title 'strategos' was adopted in preference to that of 'satrap'. It may be, too, that Philip was called on to exercise a greater measure of administrative control over other parts of his satrapy than he did over Taxila.

Death of Alexander and withdrawal of Greek garrisons from the Panjāb

The Greek garrisons in the Panjāb did not long survive. Philip was assassinated by his own mercenaries in 324 B.C., and Taxiles received orders from Alexander to carry on the government in conjunction with Eudamus, a Thracian officer, until a successor could be appointed. That appointment, however, was never made; for in the following year Alexander himself died and the whole outlook changed. Antipater and his colleagues who partitioned the empire rightly recognised that it was no longer possible to sustain the Greek power east of the Indus without the backing of a powerful force on the spot, and this they were in no position to provide. Accordingly they confirmed Taxiles in his kingdom between the Indus and Jhelum and added the Sind Valley to the dominions of Porus, thereby making of that powerful and friendly state an effective buffer stretching from the Himālayas to the sea.[1] What orders were given to Eudamus and the Greek troops is not recorded. Possibly some of the latter were withdrawn and others took service with Taxiles or Porus; and it may be that Eudamus himself remained in the capacity of a 'resident' at the Indian Court and leader of the Greek settlements. All we know is that in 317 B.C. Eudamus hastily left India with whatever forces he could muster—according to Diodorus, 3,000 foot, 500 horse and 120 elephants[2]—and made his way westward to join Eumenes in his struggle against Antigonus. At the same time Peithon, son of Agenor, also withdrew

[1] Cf. Diodorus XVIII, 39. Vincent Smith (*E.H.I.*, 4th ed. p. 115 n. 2) was wrong in supposing that the names of Porus and Taxiles were accidently transposed in this passage.

[2] Diodorus (XIX, 14) says that he got the elephants by treacherously murdering Porus after Alexander's death. It has been suggested that the text is corrupt and that for πῶρον, πρῶτον should be read. In that case the rāja referred to may have been Taxiles. Porus himself has been identified by some with the Parvataka of the *Mudrārākshasa*, who was the chief ally of Chandragupta in overthrowing the Nandas at Pāṭaliputra and whose death was contrived by Chandragupta's minister, Chāṇakya.

from his satrapy west of the Indus and threw himself into the same fray, but on the side of Antigonus.[1] If any Greek troops still remained in the Panjāb, they were soon to be driven out or destroyed by Chandragupta.

Effect of Macedonian invasion on the Panjāb

Thus passed, in less than a decade, the Macedonian invasion. Traces of it have been found at Taxila in the shape of coins, pottery and other small objects left behind by the Greeks, but it was too transient to leave any deep and lasting impression on the country; indeed, so small was its effect that this, the culminating phase of Alexander's vast conquests, is not even mentioned by any Indian writer. One important result, however, it undoubtedly had on India's future: it gave Chandragupta, who is said to have met Alexander personally in the Panjāb, a visible demonstration of what could be achieved by a highly disciplined army; and it stressed afresh the meaning of empire. But for Alexander's example, it is most unlikely that Chandragupta would ever have built up the Maurya empire or that Aśoka, his grandson, would have been in a position to make Buddhism into one of the greatest of world religions. If, moreover, Alexander's invasion of the Panjāb is considered, as in truth it ought to be, as part and parcel of his whole Asian campaign, then it must be admitted that the effect on India, direct and indirect, was incalculable; for it was due to Alexander that India came into contact with the Greek world; that Greek princes established themselves for over a century in the Panjāb and North-West; and that India was brought within the orbit of Hellenism for a still longer period, so that Greek influence could still be seen in the arts and crafts of Taxila as late as the fifth century A.D.

Notices of Taxila derived from contemporary Greek writers

Though the Greeks who accompanied Alexander have much to say about India in general, they have little to say about Taxila in particular, notwithstanding that it was the first great Indian city where they had an opportunity of observing the people at close quarters. Their curiosity was stirred by the sight of ascetics practising their austerities beneath the burning Indian sun.[2] And they went to some pains to ascertain what they could (which was not much, since they worked through three interpreters) about Indian philosophy. They notice the prevalence of polygamy and widow-burning (*satī*) and the custom by which girls too poor to be provided with a marriage dowry, were exposed for sale in the market-place;[3] and they notice also the Iranian practice already alluded to of exposing the dead to the vultures.[4] But about the appearance of the city, the houses of the people, or the countless other things that an archaeologist wants to know concerning their

[1] Peithon had been made satrap of Sind by Alexander, but by the partition of Triparadisus (321 B.C.) Sind was given to Porus, and Peithon received the Paropamisadae instead, including perhaps Gandhāra and Arachosia.

[2] They mention two ascetics in particular, one with a shaven head, one with long hair. Both were followed by a group of disciples and both were accustomed to give advice to all and sundry in the market-place, where they enjoyed the privilege of taking anything they wanted without payment (Strabo XV, c. 714–15). One of these two ascetics may have been the Sphines or Kalanos, as the Greeks knew him, who went back with Alexander as far as Persia and there immolated himself on a pyre.

[3] A somewhat similar custom still prevails in parts of the Himālayas, where girls without dowries offer themselves at the annual fairs to the highest bidders. One can see scores of them at the Sīpi fair not far from Simla, seeking in this way to get husbands.

[4] Cf. p. 16 *supra*.

material culture, they have next to nothing to say. Their silence, however, about the city and its buildings is not without significance; for had they seen any monument of an imposing or striking character, we may be tolerably sure that we should have heard of it. The fact seems to be that Taxila in the fourth century B.C., although, no doubt, a large and densely populated city (Arrian calls it 'the greatest of all the cities between the Indus and Hydaspes'), had no architecture worthy the name. So far as can be judged from the patches of remains uncovered (pp. 89–90), the lay-out of the city was haphazard and irregular, its streets crooked, its houses ill-planned and built of rough rubble masonry in mud, which, though neater and more compact than the masonry of the earlier settlement below it, was still relatively crude and primitive.[1]

The city of Taxila in the fourth century B.C.

Conquest of Taxila by Chandragupta Maurya and invasion of Seleucus Nicator

The decade following the departure of Eudamus was a fateful one for Taxila; for it witnessed the incorporation of the independent states of the Panjāb in the new empire of Chandragupta, and therewith, in all probability, the disappearance of their ruling houses, of which nothing more is henceforth heard. When and how these changes came about is not known, though it may be conjectured that the growing menace of the Maurya power was the primary reason for Eudamus quitting the country, and that Taxiles was deposed very soon afterwards as being too pro-Greek in his sympathies. What is certain is that by the close of this decade Chandragupta had established himself so firmly in the Panjāb that when, in 306 or 305 B.C., Seleucus Nicator crossed the Indus in an endeavour to recover the Indian Provinces of Alexander the Great, he found the Maurya king confronting him in such formidable force that he was constrained to make peace on terms which appear, prima facie, to have been wholly in favour of the Indian. Under those terms Seleucus not only acknowledged Chandragupta's sovereignty over the Panjāb, but also ceded to him Gandhāra and those parts of Arachosia and Gedrosia which lay along the Indus,[2] while he himself received only 500 elephants in return.[3] This one-sided treaty was sealed by a matrimonial alliance between the two royal houses, Seleucus giving a daughter or a niece to Chandragupta or, possibly, to his son Bindusāra.[4]

Growing importance of Taxila

The administration of the Panjāb and of the new provinces across the Indus could not, obviously, be carried on from so remote a centre as Pāṭaliputra in Bihar, and a subsidiary seat of government was therefore established at Taxila, which now rose to a pre-eminent position among the cities of the North-West. It was here that Aśoka afterwards ruled as viceroy on behalf of his father Bindusāra, and here, too, that in the succeeding generation Kunāla ruled on behalf of Aśoka.

[1] For the minor antiquities of this period, see pp. 103–6 *infra*.

[2] I.e. from the Indus bank up to the watershed between the Indus and Helmund systems, and as far west as the Kirthār Range or thereabouts. There are no grounds whatever for supposing that Seleucus ceded the Paropamisadae, still less Aria. Cf. Tarn, *op. cit.* p. 100.

[3] The 500 elephants, however, may well have been more valuable at that moment to Seleucus than the broad lands with which he parted; for they proved one of the deciding factors in the overthrow of Antigonus at Ipsus in 301 B.C.

[4] Cf. K. H. Dhruva in *J.B.O.R.S.* XVI (1930), p. 35 n. 28; Tarn, *op. cit.* pp. 152 and 174 n. 3.

Harsh character of Maurya administration

That the Maurya administration was a highly organised one is clear both from the detailed account of it given in the *Arthaśāstra* of Kauṭilya, the minister of Chandragupta, who was largely responsible for placing him on the throne of Magadha, and from the fragmentary writings of the Greek Megasthenes, who was ambassador of Seleucus I at the Maurya court about 300 B.C. The picture we get from these two sources is that of a wholly despotic but efficient government exercising the most rigid control over the lives and liberties of its subjects. Drastic laws and regulations were enacted to meet every conceivable contingency, and were enforced by a vast body of officials, who were, themselves, spied on and checked by an equally vast body of informers and *agents provocateurs*. Evidently the Crown did its best to prevent oppression on the part of its civil servants, but the *Arthaśāstra* leaves no room for doubt as to the bribery, corruption and crime rampant in the services. What is worse, in cases where there was any suspicion of disloyalty or seditiousness, the government itself was entirely unscrupulous about the methods it adopted to punish or remove the supposed delinquent, the theory accepted in the *Arthaśāstra* being that any form of treachery or wickedness was legitimate when employed in the service of the Crown.[1]

Local rebellions

With a government run on these principles it is not surprising that rebellions broke out in the subject states.[2] At Taxila we hear of one such rebellion during the reign of Bindusāra (*c.* 297–274 B.C.) and of another during the reign of Aśoka (*c.* 274–237 B.C.). On the first occasion the crown prince Aśoka was sent by his father with a large army from Pāṭaliputra but with instructions not to use force except in the last extremity, and the citizens of Taxila are said to have received him with open arms, protesting (as they could hardly help doing) that they had no grievance against him or his father but only against the oppression of their officials.[3] Precisely the same story, and in almost identically the same terms, is told of the later rebellion which the crown prince Kunāla was sent to quell;[4] but that does not constitute any reason for doubting its substantial truth, since such repetitions are a common feature of Buddhist writings. Indeed, it is likely enough that there were, not two only, but many such rebellions against the Mauryas at Taxila; for, apart from the galling harshness of their rule, which must have weighed heavily on all classes of the citizens, there were no doubt many at Taxila who regretted the disappearance of their own royal house and resented their subservience to Pāṭaliputra; and there must have been others—especially those of Iranian descent or

[1] See, for example, *Arthaśāstra* (Bk. v, ch. 2), where theft, robbery, and murder are among the means advocated for replenishing an exhausted treasury; even the sacred treasures of the gods were not exempt.

[2] Justin says of Chandragupta (Bk. xv, 4) that, after freeing the Panjāb from the Greeks, 'he forfeited by his tyranny all title to the name of liberator, for he oppressed with servitude the very people whom he had emancipated from foreign thraldom'. The harshness of Maurya rule may have been partly responsible for the extensive emigration from Taxila to Khotan which is said to have taken place in the days of Aśoka.

[3] *Divyāvadāna*, XXVI, pp. 371–2. It was while Aśoka was governing Taxila as viceroy on behalf of his father Bindusāra that the memorial pillar described on pp. 164–5 *infra* was set up.

[4] *Ibid.* XXVII, pp. 407–18.

with Iranian traditions behind them—who still turned their gaze towards Persia and the west, with which Taxila had been closely linked for two centuries, and who, if they were to owe allegiance to any foreign power, would have preferred to owe it to the Seleucids rather than to the Mauryas. For it must be remembered that up to the time of Chandragupta India had consisted of a number of relatively small states frequently warring one with another, and the idea of a united India had probably never entered men's heads. The people of Taxila, therefore, could hardly have felt bound by any strong national ties to Hindustān. At rock-bottom their culture was indubitably Indian, and we may well believe that they would have found themselves more at home in the bazars of Benares than in those of Bactria or Persepolis. But they shared also, and to no small extent, in the cultural heritage of Irān, and may have had good reasons for believing that their political and economic interests lay in that direction. We should beware, therefore, of taking it for granted that they would gravitate, as a matter of course, towards the new empire of Chandragupta. One of the features that struck me most in my excavation of the successive cities in the Bhir Mound and Sirkap was the way in which the influence of Hindustān obtruded itself in the arts and crafts of Taxila during the Maurya regime, but only during that regime. Up to the close of the fourth century B.C. such foreign influence as is observable among the minor antiquities came, in the main, from the west; but with the rise of the Maurya empire the direction changed, and for the space of a century it came mostly from the east; and then, with the disruption of that empire, it veered again to the west. Thus it was only during a single century in the long history of their city that the craftsmen of Taxila drew their inspiration in any large measure from the Jumna-Ganges valley; for the remaining nine centuries they drew it more frequently from Persia and the Hellenised Orient. The significance of this evidence must not, however, be exaggerated. It was the ruling classes who created the vogue for their own familiar wares and *objets d'art*, and we may be sure that they could not have done this unless their numbers had been considerable, and probably not without the help of imported craftsmen. But there are no grounds for supposing that the fashions set by the rulers in such things made any deep and lasting impression on the traditional culture and mentality of the people at large.[1]

Cultural influence of Hindustān and Irān

Reign of Bindusāra

Of Bindusāra, the son and successor of Chandragupta, little is known except that he maintained the amicable relations established by his father with Seleucus I, and that he had to deal with one of the rebellions at Taxila alluded to above. The facts, however, that he earned for himself the title of *Amitraghāta*—'Slayer of

[1] On the whole, the general culture of Taxila seems fairly well reflected in the speech and writing normally in use there. The popular speech was a Prākṛit vernacular, closely akin to other Prākṛits and quite intelligible throughout most of Northern India; the writing, on the other hand, was a local development of Aramaic, known as Kharoshṭhī, which would have been as little understood in Hindustān as the language would have been in Persia. The writing may be taken as typical of the many valuable contributions made by Western Asia and Greece to the culture of the city; the speech —more important than the writing—as typical of the culture itself, which, like the speech, was fundamentally Indian.

Foes' (Gr. *Amitrochates*), and that after a reign of 25 years he handed on the empire not only unimpaired but perhaps enlarged to his son Aśoka, indicate that he inherited his father's warlike spirit as well as his capacity as a ruler. We may conjecture, too, that his methods of administration were much the same as those followed by Chandragupta, and that these methods were continued until about the year 262 B.C. by his son Aśoka, when an event took place which must have had an immediate and profound effect on the political and moral welfare of his people. That event was Aśoka's conversion to Buddhism, which was quickly to become the dominant religion of the whole Maurya empire and of Ceylon. For the first twelve years of his reign[1] Aśoka had probably been a Hindu by faith and a worshipper of the non-Āryan Śiva, but after his conquest of Kaliṅga (*c.* 262 B.C.), when he was overcome with remorse for all the misery and suffering he had inflicted, he turned for solace to Buddhism, and two years later became a member of the Buddhist Order (*Saṅgha*). From then on until his death (*c.* 237 B.C.) he devoted himself to making known the blessings of his new faith among his subjects and in lands beyond his borders. His dream was to substitute a rule of righteousness for a rule based on force, and to unite his people together in a universal love of humanity and in the practice of those simple rules of conduct which are the foundation of the Śākya faith.[2] That with these ideals before him Aśoka could have been content to perpetuate the satanic practices advocated in the *Arthaśāstra* is unthinkable. That he changed to any great extent the existing machinery of government is improbable, but we may be sure that he did everything in his power to purge it of abuses, and that the lot of the average citizen in a place like Taxila was, in consequence, a great deal happier than it had previously been.[3]

Succession of Aśoka and effect of his conversion to Buddhism

Besides taking other steps to spread the gospel of the Buddha, Aśoka issued a series of Edicts and caused them to be engraved on the face of conspicuous rocks or on pillars of stone, setting forth the principles of religion and ethic which he judged most serviceable; he dispatched missions to Kashmīr, Gandhāra and other countries outside his dominions; he showed his philanthropy by having wells dug alongside the high roads and providing hospitals for men and beasts; and he gave a portion of the body relics of the Buddha to every town of note in his realm, and ordered stūpas to be erected for their enshrinement.

That Taxila, which was now the foremost city in the Panjāb and well known personally to the emperor from his sojourn there as viceroy, came in for a full share of these benefactions, may be taken for granted. Indeed, although the only memorial of Aśoka's time now to be seen at Taxila itself is the fragmentary marble pillar bearing an Aramaic inscription, to which allusion has already been made (p. 15; cf. pp. 164–5), his imperial edicts, issued some years after he had

His monuments at Taxila and in the neighbourhood, and evidence of their destruction

[1] Reckoned from his accession *c.* 274 B.C.

[2] Viz. truth and purity; moderation and restraint; respect for the sanctity of life; obedience to parents and elders; honour to teachers; liberality to relatives and friends, Brāhmans and ascetics; kindness and consideration for servants and slaves; and last, but not least, religious toleration.

[3] It is reasonable to assume that in this matter an important part was played by the new classes of censors (*dharma-mahāmātra*) and other officers (*rajūka* and *prādeśika*) appointed by Aśoka.

succeeded to the throne, may still be read on the granite rocks at Mānsehrā by the side of the old royal road from Taxila to Kashmīr, and there can be virtually no doubt that the great Dharmarājikā Stūpa, much destroyed and rebuilt in later years, was originally one of the stūpas founded under Aśoka's orders for housing the body relics of the Master. It is this stūpa, with its lines of monastic cells, that seems to be figured on certain coins of Taxila struck about the close of the third century B.C.; and the pillar shown by its side is in all probability one of the famous pillars or *lāts* of Chunar stone which the emperor caused to be set up alongside many of his stūpas.[1] It may be surmised, therefore, that these monuments were still standing at the time the coins in question were struck, that is, in the interval between the collapse of the Maurya empire and the conquest of Taxila by the Bactrian Greeks. On the other hand, there is some rather curious evidence to indicate that the pillar in question had been broken up before the Bactrian Greeks transferred the city from the Bhiṛ Mound to Sirkap. This evidence is supplied by some mullers made of Chunar stone, as well as broken fragments of the same material, which were unearthed on the Bhiṛ Mound.[2] The stone in question is a distinctive variety of spotted sandstone which is found only in the quarries of Chunar not far from Benares, and because of its exceptionally fine, hard texture was used exclusively for the many pillars and other carved memorials dating from Aśoka's reign.[3] Manifestly no one would have gone to the trouble and expense of bringing this stone all the way from Chunar to Taxila—nearly a thousand miles as the crow flies—merely to make mullers out of it, when he could find equally good stone for his purpose within a few miles of Taxila itself. We must infer, therefore, that this Chunar stone was brought to Taxila, as it was brought to Sāñchī and many other distant places, in the form of pillars or other objects dedicated (in all probability at the Dharmarājikā *saṅghārāma*) by the emperor; that these monuments were broken up during the violent Brahmanical reaction against Buddhism which was championed by Pushyamitra in the early years of the second century B.C.; and that the broken fragments were afterwards converted into mullers or other domestic articles.[4]

Growing strength of Buddhism

But, though Aśoka's monuments might be overthrown, the religion itself, of which they were the visible symbol, had taken too firm a hold to be dislodged, and

[1] On these coins, see ch. 38, pp. 757–8 *infra*. [2] See p. 111 and 'Stone Objects', ch. 25, nos. 23, 24.

[3] The surviving monuments referable to Aśoka's reign, all of which are made of this Chunar stone, include twenty monolithic memorial pillars at various Buddhist sites, the *vajrāsana* throne at Bodh-Gayā, the monolithic railing which crowned his stūpa at Sārnāth, a standard bowl at Sāñchī, various ribbed umbrellas, and broken pillars and other architectural fragments from his palace at Pāṭaliputra and numerous fragments of beasts, birds and human figures at Sārnāth.

[4] In the case of the great stūpa at Sāñchī there is all too clear evidence of the damage wrought during the persecution by Pushyamitra, and there is no reason, therefore, for discrediting the account of it given in the *Aśokāvadāna*, where Pushyamitra is said to have massacred all the members of the Buddhist Order at Śākala in the Eastern Panjāb and then proceeded to the North-West before meeting with a check (*Div.* pp. 433–4, ed. Cowell and Neil). Whether he succeeded in getting as far as Taxila or not we do not know, but in any case he may well have brought about an anti-Buddhist reaction there which led to the destruction of these memorials.

under the patronage of successive Greek, Śaka, Parthian and Kushān kings it went from strength to strength, until myriads of Buddhist stūpas, shrines and monasteries could be seen over the face of the land. Hsüan Tsang, the Chinese pilgrim, tells us that in his day (seventh century A.D.) there were a thousand monasteries or thereabouts (many half ruined) in Gandhāra alone, and not less than fourteen hundred in the neighbouring Udyāna. At Taxila the number must have been as great. East of the ancient cities almost every hill-top and terrace was occupied by a Buddhist settlement, while those in the cool glens between the hills or crowning low knolls in the open valleys were just as numerous; and in the cities themselves there were many more. The great majority of these monuments date from the first five centuries of the Christian era, and none of those now visible are as early as the Maurya kings; but if the strength and vitality of a religion can be gauged from its monumental remains, no one seeing this vast galaxy of ruins can doubt the overwhelming success which ultimately rewarded Aśoka's efforts in this part of India.

Maurya successors of Aśoka

Aśoka, who according to Tibetan tradition, died at Taxila, was succeeded by his son Kunāla (*c.* 237–229 B.C.), but the succession thereafter is obscure. We hear of another son, Jaloka, ruling in Kashmir and championing the cause of Saivism against Buddhism, and of Kunāla's son, Samprati, ruling in the western provinces at Ujjain and supporting Jainism. There is inscriptional evidence, also, to show that another grandson (or perhaps great-grandson), Daśaratha, was king of Magadha not long after Aśoka; and we may accept the Puranic statement that the last of the Mauryas at Pāṭaliputra was Brihadratha, who was dethroned and slain by the Śuṅga Pushyamitra about the year 184 B.C. As to other members of the Maurya dynasty there is complete uncertainty. The Brāhman sources give one list, the Buddhist another; and the two are quite irreconcilable. It has been suggested that the confusion is to be explained by a division of the empire after the reign of Kunāla or Samprati,[1] in which case the Buddhist list of dynasts would refer to one part of it, the Brāhman to another. This explanation may well be true of the eastern and western provinces with their capitals respectively at Pāṭaliputra and Ujjayinī, and there is some reason for believing that part at least of the trans-Indus provinces continued to be ruled by Maurya princes down to the Greek conquest,[2] but, so far as Taxila is concerned, it seems virtually certain that the city threw off the Maurya yoke soon after the death of Aśoka and maintained its independence until the invasion of Demetrius.

Memorial to Kunāla

The name of Kunāla, it may be noticed, was perpetuated at Taxila by a commemoration stūpa which, Hsüan Tsang tells us, was erected to mark the spot where the young viceroy had had his eyes put out through the evil machinations of his stepmother (pp. 348–9 *infra*). The story, which may have been a local version of the well-known Greek legend of Phaedra and Hippolytus, was no doubt

[1] Cf. *C.H.I.* I, p. 512; Lassen, *Indische Alterthumskunde* II, pp. 283 *sqq.*

[2] Subhagasena (Gr. Sophagasenus), whom Antiochus the Great found ruling in the Kābul valley in 206 B.C., is thought by some, on the strength of his name, to have been a member of the Maurya line. *C.H.I. loc. cit.*

apocryphal, but it is interesting nevertheless as showing that the memory of the prince was still kept alive eight centuries and more after the eclipse of the Maurya power.

Benefits of Maurya rule

In spite of the harsh and, in some respects, iniquitous character of Chandragupta's rule, much was undoubtedly done by him and his successors for the economic welfare of the people. Stress was laid, as it had previously been laid under the Achaemenids, on the construction of trade routes and on rendering them secure against bandits. Megasthenes makes particular mention of the great royal road opened up from Pāṭaliputra to Taxila and thence across the Indus to Pushkalāvatī and Kāpiśī, where it linked up with the Seleucid road to Bactra, Hekatompylos and the west. Lands were surveyed and agriculture aided by the construction of canals, reservoirs and wells; increased attention was given to forestry and mining operations; cattle and horse-breeding were improved; weights and measures were standardised, and a more or less uniform coinage was issued from the royal mints, which must greatly have facilitated trade and commerce between different parts of the empire.[1]

Conquest of Bactrian Greeks preceded by brief spell of independence

The rule of the Mauryas, which had thus lasted for three generations, proved to be no more than an interlude in the long story of Taxila's subjection to conquerors from the west. In Chandragupta's boyhood the North-West had been overrun by Greeks from far-off Macedonia; now that the break-up of the Maurya empire left the frontiers once more exposed to invasion, it was the Greeks of near-by Bactria, settled by Alexander on the further side of the Hindu Kush, who were again to conquer Taxila and hold her in their grip for another hundred years; and after the Greeks there was to follow a succession of other invaders—first the Śakas, then the Parthians, after them the Kushāns, and lastly the White Huns. So that for six long centuries—virtually for the rest of her history as a great city—Taxila was never again to be free from the yoke of western conquerors. Some time before the advent of the Bactrian Greeks, however, there is, as we have seen, some evidence to show that Taxila had herself thrown off her allegiance to Magadha and for a few decades had been enjoying complete freedom.[2] To this period of independence (*c.* 225–183 B.C.) are probably to be ascribed the rare copper coins which bear the legends ***negamā***, ***paṁcanekame*** and ***hirañasame***,[3] and probably also a great many of the local uninscribed copper coins as well (pp. 756–63), though the simpler types of the latter appear to date from as far back as the Maurya period, and others may not have been issued until after the advent of the Greeks. The word ***negamā*** has generally been taken to imply that the coins

Problems of local coinages

[1] This Maurya coinage consisted of silver and copper 'punch-marked' pieces known respectively as *rūpyarūpa* or *kārshāpaṇa* and *tāmrarūpa*. The *kārshāpaṇa* in general use throughout the empire had an average weight of about 52 grains troy; but a slightly heavier piece seems to have been in use in the North-West equivalent to two-thirds of the Persian *siglos*. Cf. Kauṭilya, *Arthaśāstra*, p. 95 and Allan, *B.M. Cat. of Indian Coins*, paras. 80–4, 87 and 199–204. See also pp. 14, 103, 105–6 and 752 ff.

[2] *C.H.I.* I, p. 442.

[3] Cf. R.U.C. ch. 39, nos. 10 and 31, and for the *negamā* coins, *B.M. Cat. of Indian Coins*, pp. cxxvi–cxxviii and Pl. XXXI, 1–6.

thus inscribed were commercial coins issued by trade guilds,[1] and support for this view has been found in the fact that some of the coins exhibit a steelyard on their reverse; but Bhandarkar has shown that the proper word for 'guild' is *śreṇin*, which is so frequently met with in Jātaka literature and epigraphic records, and that *negamā* and *naigamāh* must be taken to have the same meanings that they have in the *Vivadaratnākara* and other works on Hindu Law, viz. 'township' and 'the body of townsmen'.[2] This being so, it is natural to take the five names on the reverse of these *negamā* coins as the names of the towns which issued them, viz. Tālimata or Rālimata, Dojaka, Atakataka, etc., the last mentioned in all probability being the modern Atak (Attock). Moreover, as there are five such different names on the *negamā* coins (two only partly legible), it is a plausible conjecture that these five townships subsequently joined together in issuing the *paṁcanekame* series of coins.[3] That Taxila itself was one of these five towns cannot be assumed; and, indeed, the very paucity of these coins at Taxila[4] raises a strong presumption that they were not issued there. If *negamā* meant a mofussil-town as distinguished from the capital city (*pura*), then it would be natural to infer that these *negamā* and *paṁcanekame* coins were issued by certain of the lesser towns in the Sind Sāgar Doāb, and accepted as 'legal tender' at Taxila, notwithstanding that the latter was issuing a copper coinage of its own. However this may be, it seems likely that, after severing her connexion with Magadha, Taxila and other cities of the old Taxilan kingdom between the Indus and Jhelum rivers had formed some sort of confederacy of republican states under the leadership of Taxila, each member of which had the right to issue its own coinage.[5]

Probable confederation of city states

It was during this brief spell of Taxila's independence that Antiochus III, the Great, paid a visit to the Kābul valley. Polybius' account (XI, 34) has suggested that Antiochus was renewing an ancestral friendship with the then ruling chief, Subhagasena, whom the Greeks called Sophagasenus—a reference, evidently, to the alliance which Seleucus Nicator had concluded 99 years before with Chandragupta Maurya. But the visit could hardly have been regarded as a very friendly one, seeing that Antiochus revictualled his army at Subhagasena's expense, robbed him of all his elephants, and imposed an indemnity, which he had to leave one of his officers to collect while he himself was hurrying back to the west. Although this hasty foray of Antiochus was confined to the Kābul valley, its consequences for India were far-reaching; for it showed that a resolute invader would have little to fear from what was now left of the Maurya empire.

Antiochus the Great in the Kābul valley

The lesson was not lost on the Greeks of Bactria. Euthydemus himself, as his coins indicate, started by annexing Arachosia and Sīstān and possibly the

Invasion of Demetrius I

[1] Bühler, *Indian Studies*, III, 2nd ed., Strassburg (1898), p. 49; Cunningham, *A.S.R.* XIV, p. 20; Allan, *B.M. Cat. of Indian Coins*, p. cxxvi.

[2] D. R. Bhandarkar, *Carmichael Lectures* (1918), pp. 174–8.

[3] A different view is taken by Allan, *op. cit.* p. cxxviii.

[4] Only three specimens of these coins were unearthed by me in the course of 20 years' digging, and not one of the *negamā* coins.

[5] For the other coins issued by Taxila itself during this period, see ch. 38.

Paropamisadae as well, but he left it to his son, Demetrius, who succeeded him in 189 B.C. or thereabouts, to push his conquests into Gandhāra and across the Indus into the heart of the Panjāb. Demetrius, who was a Seleucid on his mother's side, may conceivably have regarded himself as possessing some sort of hereditary title to the throne of the Mauryas, inasmuch as the Seleucid and Maurya lines were connected by the marriage of Seleucus' daughter (or niece) either to Chandragupta or to his son Bindusāra,[1] in which case Aśoka himself would have been half a Seleucid. However this may have been and whatever his ultimate designs, Demetrius must inevitably have made Taxila his first objective after crossing the Indus; for Taxila not only lay athwart the highway to Hindustān but, having served for three generations as the administrative headquarters of the Maurya viceroys in the North-West, had become the most powerful nerve-centre of all this part of India and one which the invader was bound to occupy and use as a base for his further campaigns.

Tarn's reconstruction of his history

Of the details of those campaigns there is no record. Dr Tarn, whose brilliant and exhaustive work on *The Greeks in Bactria and India* has recently done much to elucidate this obscure chapter of India's history, holds that, among the many Greek princes who were to rule over the newly acquired territories, two—Apollodotus and Menander—were contemporaries of Demetrius and played a large part in his conquests. He surmises that Apollodotus was a younger brother of Demetrius, and Menander[2] one of his generals, who rose to eminence through his own outstanding abilities and subsequently gained a connexion with the royal house of Euthydemus by marrying Agathocleia, whom he supposes to have been a daughter of Demetrius I and sister of Euthydemus II, Demetrius II, Pantaleon and Agathocles.[3] According to Tarn, Demetrius entrusted Menander with the conduct of the campaign against Hindustān, while he himself led another force down the Indus valley. Apollodotus, his brother, he had already appointed as a sub-king in Arachosia and Drangiāna, and Demetrius II, his son, as another sub-king in the Paropamisadae and Gandhāra. A few years later, on Demetrius' return to Bactria (*c.* 175 B.C.), these dispositions were, Tarn thinks, revised. Apollodotus was then made ruler of Sind, the Western Panjāb (including Taxila) and Gandhāra; the Paropamisadae, Arachosia and Drangiāna were assigned to Pantaleon, soon to be succeeded by his brother Agathocles; and Demetrius II was transferred from the Paropamisadae to Bactria, to take the place of Euthydemus II, who had died in the meantime. After settling affairs in Bactria, Demetrius may have returned to India to help Menander in his eastern campaign, and was possibly with him at Pāṭaliputra in *c.* 169 B.C., when the news of the revolt under Eucratides forced him to withdraw

[1] *Vide supra*, p. 20, n. 4.

[2] Menander is recorded to have been born in the village of Kalasi, not far from Alexandria of the Caucasus (Kāpiśi). Tarn takes this as evidence that he could not have been a royal prince; but the birthplaces of Akbar and Jahāngīr to mention only two of India's emperors—should have warned him of the futility of such an argument.

[3] Tarn, *op. cit.* pp. 76, 140–2, 166–7, 182, 411. It is also possible that she was a daughter of Apollodotus.

from the Midland Country (Madhyadeśa) and hurry back to Bactria, where he was soon afterwards to meet his death.[1]

Comments on the foregoing: Demetrius II and the Paropamisadae

Dr Tarn's reconstruction of the story of Demetrius thus roughly summarised is, to a large extent, based on surmise. So far as it concerns Taxila there are three points that invite comment. The first relates to the alleged connexion of Demetrius II with the Paropamisadae. For that connexion there seems to be insufficient evidence; indeed, the only evidence adduced by Dr Tarn is a unique bilingual tetradrachm of Demetrius bearing the reverse type of 'Zeus standing facing, thunderbolt in right hand and long sceptre in left'.[2] That is a type, however, that seems to be associated less with Kāpiśi than with Arachosia, where it was subsequently carried on by Heliocles and became specially distinctive of the coinage of Śpalahores, Śpalagadames, Śpalirises and Azes I (p. 779 *infra*). For this reason and because of the difficulty of fitting in Demetrius II in the Paropamisadae before Pantaleon, it seems more likely that he was appointed sub-king in Arachosia and Drangiāna after their annexation, and remained there until the death of Euthydemus II, when he returned to Bactria to take his place as joint-king with his father.

Pantaleon and Agathocles

The second point relates to Pantaleon and Agathocles. Tarn conjectures that Pantaleon succeeded Demetrius II in the Paropamisadae and Apollodotus in Arachosia and Drangiāna, and that he was followed in those provinces by his younger brother Agathocles;[3] he holds also that the square bronze coins of the latter of the 'Stūpa and tree-in-railing' type with the legend *Hirañasame* (? Golden Hermitage) on the reverse were struck by him merely for trade purposes in imitation of certain then current coins of Taxila.[4] Prima facie, this explanation is highly improbable; for it implies that the coins in question were struck at Kāpiśi some time after Apollodotus I had taken over the kingdom of Taxila and when he was presumably issuing coins of his own. It is difficult to believe that Apollodotus would have acquiesced in the issue of these coins struck in the name of Agathocles but specially designed for circulation in Apollodotus' own capital. If the Golden Hermitage was really at or in the neighbourhood of Taxila (a point as to which there is some doubt), then we are bound, I think, to conclude that Agathocles, and presumably Pantaleon before him, included Taxila in his dominions. This conclusion is supported not only by the many coins of these two princes found east of the Upper Indus, but by the fact that Agathocles' name appears on his square bronze Indian coins as *Akathukreyasa* in Kharoshṭhī and as *Agathuklayasha* in Brāhmī. That is to say, there is an interchange of *k* and *g* in the two forms, indicative of a definite dialectic difference which is paralleled in other coins of this region bearing the legend *nekame* in Kharoshṭhī and *negamā* in Brāhmī.[5] Had Agathocles struck his coins in Kāpiśi, it is highly improbable, as Allan has rightly

[1] Cf. Tarn, *op. cit.* ch. IV.

[2] *Ibid.* pp. 77-8. Whitehead, *N.C.* (1923), p. 317, no. 2 and Pl. XIV, 2.

[3] *Op. cit.* pp. 156-7.

[4] *Ibid.* pp. 160-1.

[5] Cf. Allan, *B.M. Cat. of Indian Coins*, p. CXXIX.

pointed out, that this small, though significant, point of difference in the local dialects east of the Indus would have been preserved on them.

For the above reasons and because the coins of Pantaleon and Agathocles are clearly earlier than the Taxila issues of Apollodotus I, I think it more probable that Pantaleon became sub-king of the Paropamisadae, Gandhāra and Taxila immediately after their occupation by Demetrius I (*c.* 182 B.C.) and that either he or his brother Agathocles relieved Demetrius II in Arachosia and Sīstān, when the latter returned to Bactria. As to Apollodotus, it may well be, as Tarn has suggested, that he accompanied Demetrius in his early campaigns, and was not made a sub-king until about 175 B.C. We may suppose that he then became ruler of the newly won dominions west of the Jhelum, including Arachosia and Sīstān, if Agathocles was already dead.[1]

Menander

The third point in Tarn's reconstruction which seems to me open to question concerns Menander. If, as Tarn seeks to show, Menander was one of Demetrius' generals and carved his own way to fortune before marrying into the royal house, he must surely have been a man nearing middle age at least when he became king and minted coins of his own. As a fact, however, his earliest issues show him as a very young man, with an almost girlish countenance (*B.M. Cat.* Pl. XI, nos. 8 and 9); so much so that, were it not for the ribbons at the back of his neck and some other small details, his bust at this period might be mistaken for that of the virgin goddess, who is so often portrayed on his coins.

Apollodotus I

To revert, however, to Apollodotus I. After taking over the Western Panjāb and Gandhāra that king would naturally make his capital at Taxila, as the most important and centrally situated city in his kingdom, and it was there, no doubt, that he established his principal mint. His square copper coinage ordinarily bears the type 'Apollo and tripod', which he adopted—with pointed allusion, no doubt, to his own name—from the issues of Euthydemus II, but with a full-length figure of Apollo substituted in place of the earlier bust. His silver pieces of the 'Elephant and bull' type may well have served to signalise his rule east and west of the Indus, the elephant, if Tarn is correct about this, standing for the city of Taxila, the humped Indian bull of Śiva for the city of Pushkalāvatī, capital of Gandhāra.

Invasion of Eucratides

In 165 or 164 B.C. Eucratides, who with the backing or on behalf of his cousin Antiochus IV had already defeated Demetrius and deprived the Euthydemids of Bactria, Sogdiāna, Āria, Sīstān and Arachosia, proceeded to push his conquests into the Kābul valley and Gandhāra. At Kāpiśī he initiated the 'Zeus enthroned' coin type,[2] which was afterwards to become characteristic of that city, and with it he re-struck in that area coins of Apollodotus—a fairly sure sign that he had wrested the Paropamisadae from Apollodotus; he was the first of the Indo-Greeks also to use the type 'Nike with wreath and palm', which was to become characteristic of Gandhāra and to be copied there by Menander, Epander, Antimachus II,

[1] Tarn takes the view that Agathocles was still in Arachosia and Sīstān when they were invaded by Eucratides (*op. cit.* p. 200).

[2] This was the special type of his cousin Antiochus IV (*ibid.* p. 212).

Strato I, Philoxenus, Artemidorus, Archebius, Maues, Azes I, etc. Whether he ever crossed the Indus and possessed himself of Taxila is not altogether clear. His best-known coin type is 'Bust of king with mounted Dioscuri charging', or in place of the Dioscuri their pointed caps (*pilei*). The horsemen type, which Eucratides had borrowed from the Seleucid coinage of Antiochus II and Seleucus II[1] was afterwards adopted in Gandhāra by Diomedes, but the *pilei* subsequently became closely associated with the coinage of Taxila, where they were continued by Lysias and Antialcidas, Antialcidas alone, and Archebius, as well as by Liaka Kusūlaka, satrap of Chukhsa. This might seem to be reasonably good evidence that Eucratides did in fact cross the Indus and was for some time in possession of Taxila, but it may well be that Antialcidas, king of Taxila, adopted this, the most characteristic type of Eucratides, merely as being the direct heir and successor of that king and Heliocles, not because it had any special connexion at that time with Taxila itself.

Coinage of Apollodotus I and II

Apollodotus' copper coins of the 'Apollo and tripod' type have often been confused with the much later and more numerous issues of Apollodotus II,[2] with the result that he has been credited with a far more extensive coinage than he is entitled to. As a fact, his coins are not so common as to indicate, like those of Menander, for example, or Azes I, a particularly long reign. Probably he was killed about 163 B.C. during the war with Eucratides, and the two kingdoms west and east of the Jhelum were then united under Menander, with the capital of the new state at Śākala (? Siālkot) instead of Taxila.

Coinage of Menander

After their union Menander struck various coins for circulation in his enlarged realm. His most favoured type was the goddess Athene, usually portrayed in her character of 'Alkis' with shield or aegis over outstretched left arm and hurling a thunderbolt with her right.[3] Sometimes, however, the goddess is represented by her helmeted bust alone[4] or by one of her attributes, notably by her shield with the Gorgon head (a type previously used by Demetrius—*B.M. Cat.* p. 7, no. 14) or her owl, just as on other coins of Menander Heracles is represented by his club and Nike by her palm.[5] Apollodotus' type of the 'standing Apollo holding bow and arrow' Menander did not copy, probably because he was not himself a Euthydemid, or because of the peculiarly personal significance which Apollodotus' name had given to that type. On the other hand, he reproduced in Gandhāra his predecessor's 'bull and tripod' type, but substituted the head of a bull for the whole figure;[6] and in the same district, which he had recovered from Eucratides, he adopted that king's Nike type, replacing the bust of the king by the bust of

[1] Heads of the Dioscuri had previously figured on the coinage of Seleucus I (Tarn, *op. cit.* p. 204 and notes). Eucratides' mother was probably a daughter of Seleucus II and sister of Antiochus II.

[2] Apollodotus I uses the title 'Soter' only; Apollodotus II styles himself both 'Soter' and 'Philopator', using the titles either singly or in combination. It is misleading, therefore, to refer to one as Soter, to the other as Philopator.

[3] *B.M. Cat.* Pl. XI, nos. 7–12; R.U.C. ch. 39, nos. 52, 55–7.

[4] *Ibid.* Pl. XII, nos. 1–4; R.U.C. nos. 53 and 54.

[5] *Ibid.* nos. 2–4, 6 and 7; R.U.C. no. 53.

[6] *Ibid.* Pl. XII, no. 5.

Athene, and on his smaller issues replacing the figure of Nike by her palm.[1] His type 'Elephant and club' (of Heracles) was possibly designed to commemorate his recovery of Eastern Arachosia and its reunion with Taxila after the defeat of Eucratides by Mithridates I of Parthia.[2]

and extent of his dominions

Menander's reign signalises the most brilliant period in the history of the Greeks in India. Deprived of their homeland in Bactria, the princes of the house of Euthydemus had now won for themselves a much greater and richer kingdom in the south. The heart of it was the valley of the Indus and the broad, well-watered plains of the Panjāb, but in the north it embraced also the trans-Indus provinces of Gandhāra and Eastern Arachosia,[3] and in the south-west possibly Kacchā and Surāshtra and the seaboard beyond them as far as the port of Barygaza (Broach).[4] Thus the extent and wealth alone of his dominions, coupled with the

[1] *B.M. Cat.* Pl. XI, no. 13 and Pl. XII, no. 7. The *dharmacakra* on the obverse of the latter was particularly appropriate to Gandhāra, where Buddhism had already obtained a stronghold.

[2] R.U.C. no. 51. The connexion of Heracles with Arachosia is attested by the subsequent coinages of Śpalahores, Śpalagadames, Śpalirises, Azes I and Azilises, not to mention those of Lysias, Zoilus I and Theophilus, the location of whose kingdoms is less certain.

[3] To what extent Arachosia was included in Menander's kingdom is debatable. It was annexed, as we have seen, by Eucratides *c.* 168 B.C., but wrested from him again in part by Mithridates I of Parthia, *c.* 159 B.C. There is no evidence that Mithridates took the whole of it. Justin (XLI, 6, 8) says that Mithridates' dominions stretched from the Lower Euphrates to the Hindu Kush, which implies that he took possession of Sīstān and Western Arachosia, but there is no suggestion that he ever extended his rule as far as the Indus. Had he done so, Justin could hardly have failed to mention it. Wroth is probably correct in showing the eastern limit of Mithridates' conquests as running north-north-east from the neighbourhood of Nushki in Balūchistān to Kābul, i.e. along the watershed between the Helmund and Indus systems, which in all likelihood had been the boundary between the Seleucid and Maurya empires. Mithridates commemorated these conquests by reviving two coin-types of the Euthydemids, viz. the 'Standing Heracles' of Demetrius and Euthydemus II and the 'Zeus enthroned with eagle' of Agathocles, but it was not long before he was pushed back by Heliocles out of Bactria, and probably out of Western Arachosia as well. We may surmise, therefore, that Menander recovered that part of Arachosia which lay within the Indus river system, and that Heliocles and his successors for a short while (i.e. until the Śaka invasions) probably possessed the whole of it.

[4] I am not convinced that the Greek power in India was as extensive as Dr Tarn maintains. On the other hand, I emphatically dissent from Dr Whitehead's view that it was confined to the hills and submontane tracts (*N.C.* (1940), pp. 3, 4). The Greek possession of Taxila, for example, must have carried with it the possession of the Sind Sāgar Doāb, which had belonged to the old Taxilan kingdom and which extended right across the Western Panjāb as far as the Panjnād. The fact that Greek coins are rarer in the plains than in the hills proves nothing. Dr Whitehead himself says that 'ancient coins of any kind are very scarce in Sind', notwithstanding that Śakas, Parthians, Kushāns and Arabs are known to have held possession of that country. Coins, like other small antiquities, are bound to be rare in any alluvial tracts like Sind or the plains of the Panjāb, where the frequent and widespread inundations of the rivers quickly cover up the remains of human settlements. Nor is there any reason to suppose that the Greeks clung to the hills for climatic reasons. Dr Whitehead says that 'they were natives of a temperate climate and their comparatively small numbers would have been lost in the plains'. As a fact, they had been settled for four generations and more in Bactria, in a climate worse than that of the Panjāb. Why, then, should they have feared the heat of the plains more than other invaders who came after them—Śakas, Parthians, Kushāns, Mughals and Afghans? As to numbers, they may have been like 'flecks of foam on the dark blue ocean', but so, too, were the British. Demetrius had far more men at his command than Babar had when he set forth to the conquest of Hindustān.

strength of his armies, might well account for the widespread fame of this ruler, who alone among the Yavanas became celebrated in Indian literature.

Menander's fame and espousal of the Buddhist cause

As a fact, however, Menander was known not less for his wisdom, justice and personal valour than for his wealth and power.[1] There is a story in the *Milinda-pañha*[2] that Menander was converted to Buddhism and became the disciple of a certain elder named Nāgasena. The story in all probability is apocryphal; we may be sure, at any rate, that Menander never became a member of the Order. On the other hand, there is no reason to doubt that he adopted the faith at least nominally and gave his official support to the Buddhist church. For taking this course he would have had the strongest political motives; for the violent Brāhmanical reaction against Buddhism which his chief enemy Pushyamitra had championed and which had culminated in the wholesale slaughter of Buddhist priests (including those of Śākala, which was later to be Menander's own capital), had made the Buddhists for the time being bitterly hostile to the Brāhmans. By identifying himself, therefore, with the cause of Buddhism, Menander was making sure of the support of what was at that time probably the strongest religious body in the Panjāb and North-West, and numerically, perhaps, not inferior to the Brāhmans of Hindustān and Central India—a fact which must have contributed in no small measure to his victories over Pushyamitra. Buddhism, by its very nature, would no doubt have been likely to appeal, and did in fact appeal, to the Greek intellect more than Brāhmanism, but in Menander's case it was obviously a matter of policy to espouse the Buddhist cause. Greek and Buddhist happened to have a common enemy in the Śuṅga king, and it was this common enmity that threw them into each other's arms.[3] This may explain why Menander, like Apollodotus, calls himself Soter, 'the Saviour', on his coins. He was the 'saviour' of the Buddhists and of all who stood for the old Maurya power against the usurper Pushyamitra. It equally explains why he uses the title *dhramikasa*, as Strato I, Heliocles, Archebius and Zoilus I were to do after him, and why he has a *dharmacakra* or 'wheel-of-the-law' figured on one of his coins.[4] For by this time both the title and the symbol were indissolubly associated with Buddhism and their use was quite enough to proclaim the king's adherence to that religion. It is true that the wheel had been a familiar symbol in India long before the Buddhists adopted it as one of their most significant emblems, and Tarn has sought to show that its presence on Menander's coins means that he laid claim, as other Indian monarchs including his rival Pushyamitra did, to the proud title of *cakravartin* or Universal Monarch.[5] But

[1] *C.H.I.* I, p. 549. [2] Ed. V. Trenckner, trans. by Rhys Davids, *S.B.E.* xxxv and xxxvi.

[3] Tarn, *op. cit.* p. 175. In the same way, as we shall see later on, Antialcidas and the king of Vidiśā had a common enemy in Strato I, king of the Eastern Panjāb, and the ambassador of the former made a point of ostentatiously proclaiming himself a follower of Vishṇu (*bhāgavata*)—doubtless in order to curry favour at Vidiśā.

[4] Cf. *A.S.R.* (1928–9), p. 65, no. 4 and *B.M. Cat.* Pl. XII, no. 7.

[5] Tarn, *op. cit.* pp. 263–4. In support of his contention he quotes the story preserved by Plutarch that after Menander's death the cities raised stūpas (μνημεῖα) over his ashes, his argument being that the ritual was in origin reserved for a *cakravartin*, but if any inference is to be drawn from the

no one acquainted with the early Buddhist monuments of the second and first centuries B.C., where it is figured time and again in precisely the same way as it is on Menander's coins and on the *pañcanekame* coins, can have any doubt as to the meaning it possessed for the ordinary Indian.[1] Similarly, it is difficult to believe that in a city like Taxila, where the great stūpa of Aśoka, the foremost monument of the Panjāb, was called the Dharmarājikā, the average citizen could have taken that or the cognate term *dharmika* to have any but a Buddhist significance.

Appointment of sub-kings

Menander seems to have copied the example of Demetrius in placing the outlying parts of his dominions under the rule of sub-kings, and it is important to observe that this practice was followed by his successors, whether they belonged to the house of Euthydemus or Eucratides. Two provinces thus governed by sub-kings were Gandhāra and Arachosia. Tarn has noted that a sub-king of Gandhāra under Menander was Antimachus II.[2] We may surmise that other sub-kings in the same province under Menander or Strato I were Polyxenus and Epander; and under Heliocles and his successors, Philoxenus, Diomedes and Artemidorus.[3] In Arachosia, Zoilus I was probably a sub-king under Menander and Strato I, while Lysias may have started as a sub-king under Heliocles.

Death of Menander and succession of Strato I

Menander died probably about 150 B.C., and was succeeded by Strato I, with Agathocleia (daughter of Demetrius or Apollodotus?) acting as regent during her son's minority.[4] It has been inferred that the trans-Indus provinces and Taxila were conquered or reconquered by Heliocles, son of Eucratides, immediately

passage in question, it is surely that Menander was intimately connected with Buddhism, not that he laid claim to being a *cakravartin*. Tarn also argues that the palm branch beside the wheel on Menander's coins symbolises the victory of the *cakravartin*. It is certainly the symbol of Nike, just as on other coins of Menander the club is the symbol of Heracles (*B.M. Cat.* Pl. XII, no. 6), but the Nike in question was the same Nike holding wreath and palm that is figured on other coins of Menander (*ibid.* Pl. XI, no. 12 and Pl. XII, no. 1) and on coins of Antimachus II, Epander, Strato I, Archebius, Philoxenus and Hermaeus. The goddess is particularly associated with Gandhāra, and it is probable that Menander's coin was struck in that province. It is noteworthy that on a coin of Antimachus II Nike is also symbolised by wreath and palm.

[1] For example, the *dharmacakra* was figured six times at the entrances to the second stūpa at Sāñchī, it constituted the crowning ornament on each of the five *toranas* at the same site, and was figured no less than twelve times on the faces of the *toranas*. In these *dharmacakras*, which symbolise the third Great Miracle of the Buddha—that of setting in motion the Wheel of the Law in the Deer Park at Benares—the spokes of the wheel are, in almost all the earlier examples, provided with terminals outside the rim in the shape of diminutive umbrellas (symbols of the royalty of the Buddha) or *triratnas* (symbols of the Buddhist trinity). It is noteworthy that the same practice is followed in the case of the wheel on Menander's coins as well as of the *pañcanekame* coins referred to above, the terminals in all of them taking the form of umbrellas. For the Menander coins, see *B.M. Cat. Greek and Scythic Kings*, Pl. XII, no. 7; for the *pañcanekame* coins (the Buddhist character of which is further emphasised by the addition of the stūpa and *triratna* emblems), Allan, *B.M. Cat. of Indian Coins*, Pl. XXXI, nos. 11–17; and for the wheels on the Sāñchī gateways and railings, Marshall and Foucher, *Monuments of Sāñchī*, I, pp. 196, 198, and Pls. 18, 25, 27, 42, 55, 63, 69, 74, 79, 82, 86, 91, 97, 101, 103.

[2] *Op. cit.* p. 229.

[3] The types of Artemidorus (Artemis: Indian bull) were imitated by Maues, the first Śaka king. It is probable, therefore, that he was reigning in the opening years of the first century B.C.

[4] See, however, Whitehead in *N.C.*, 5th series, vol. XX, pp. 97 *sqq.*

after Menander's death, but it is clear from the coinage of Strato with Agathocleia and of Strato alone that that king must have come of age and exercised ruling powers for some considerable time before the trans-Indus provinces were wrested from him. Thus two of his coin issues (one with and one without the title *dikaios*—Kh. *dhramika*) exhibit the type 'Bearded bust of Heracles and Nike with wreath and palm', which were evidently intended for circulation in Arachosia and Gandhāra.[1] Another issue of Strato's with the type 'Standing Apollo and tripod-lebes' was copied from a well-known type of Apollodotus I and probably struck in the Taxila mint. It suggests that Strato's mother, Agathocleia, may have been a daughter of Apollodotus rather than of Demetrius, though the fact that she was a niece of Apollodotus would probably have been quite enough reason for Strato to adopt this type—a thing which Menander had hesitated to do.

Conquests of Heliocles

We may infer, then, that Heliocles did not succeed in taking possession of the trans-Indus kingdoms and Taxila until some time after 145 B.C., and that Strato was then driven eastward across the Jhelum and his kingdom reduced to the territories between that river and the Jumna, with the capital at Śākala (? Siālkot) in the Rechna Doāb between the Chenāb and Rāvi rivers. The extent of Heliocles' conquests in India is clearly reflected in his coins. Most familiar among his types is the standing figure of Zeus holding a thunderbolt in lowered right hand and long sceptre in his left. It is a type which he had already used on his Bactrian coins and which subsequently came to be identified with Arachosia (regained by him partly from Mithridates I, partly from Strato I), where it was copied by the Śaka princes Śpalahores, Śpalagadames, Śpalirises, and Azes I. Another type used by Heliocles on his silver issues is the 'Zeus Nikephoros enthroned', which Eucratides had inaugurated at Kāpiśī in the Paropamisadae and which quickly became identified with that city. For his copper coins, on the other hand, Heliocles adopted two regional types which had already become familiar from the coins of Apollodotus I and Strato I, viz. the elephant of Taxila and the Indian bull of Gandhāra.[2] There is good reason, therefore, to infer that, besides continuing to hold the Paropamisadae, Heliocles had regained Arachosia and Gandhāra and added Taxila and the Sind Sāgar Doāb to the conquests of Eucratides. His reign, which, judging by the comparative rarity of his coins, could not have been a long one, probably came to an end about 135 B.C. Thereafter the order of succession at Taxila is uncertain. Three kings are concerned: Lysias, Antialcidas and Archebius. Usually it has been thought that Heliocles was followed by Antialcidas at Taxila and the latter, in turn, by Archebius, after whom the Greeks were dispossessed of the Western Panjāb by the Śakas. Lysias has been treated as a contemporary of Antialcidas reigning elsewhere than at Taxila, although for some obscure reason coining in the same mint as that king. But all this is open to question. Lysias' coins display two main types. The silver ones show a youthful head of the king on

Order of succession after Heliocles

Lysias and his coinage

[1] R.U.C. nos. 59 and 60. [2] R.U.C. nos. 68–70.

the obverse and a standing figure of the young Heracles with club and palm on the reverse. On some the king appears wearing a fillet, on others a helmet, and on others the familiar elephant scalp of Demetrius. The type of the copper issues, both round and square, is 'Bearded bust of Heracles and elephant'.[1] The only title used by Lysias is *aniketos* (unconquered), which is used also by Demetrius, Philoxenus and Artemidorus. Besides the above regular issues of Lysias, there is also a unique copper coin struck in the joint names of Lysias and Antialcidas,[2] on which the name of the former appears on the obverse along with the bust of Heracles, and the name of the latter on the reverse with the caps of the Dioscuri and two palms—emblem of Eucratides and of the later Greek rulers at Taxila.[3] These numismatic data are interpreted by Tarn as evidence that Lysias was a descendant—presumably a grandson—of Demetrius, his father being Demetrius II or Agathocles. The joint coin of Lysias and Antialcidas he explains as marking a *rapprochement* between the two rival houses of Euthydemus and Eucratides and the end of their longstanding feud. Lysias, he thinks, was not a sub-king under Antialcidas, but merely an ally or associate, notwithstanding that, as the moneyers' marks prove, he shared the same mint. There is much to be said for these views, but there are obvious objections to them; for when a coin bears the names of two kings, without any indication of their relationship, it is natural to suppose that the king named on the obverse is the more important and senior of the two, and in all probability the father of the other, just as in the case of the joint coins of Śpalirises and Azes I the former is presumed to be the father of the latter.[4] Indeed, it is hardly credible that a local princeling, reigning, as Tarn suggests, 'somewhere in the hills', would have had the hardihood to relegate the great Antialcidas to an inferior position on the reverse of coins which were struck in the latter's own mint and circulated in his territories. Moreover, the elephant which figures with the bust of Heracles and palm on his copper coinage seems to indicate, as it does in the case of Apollodotus, Menander, Heliocles, Antialcidas and Archebius, that for some part at least of his reign he was ruling over Taxila, while the 'Bust of Heracles with club and palm' and 'Standing Heracles with club and palm'[5] point to his association with Arachosia, where the latter type was used by Zoilus I, Śpalahores, Śpalagadames, Azes I and Azilises, and the former by Strato I, Zoilus I and Heliocles. The tendency seems to have been for types of this kind to take root in the particular districts where they first became current and to continue to be used in those

[1] R.U.C. no. 71.

[2] *B.M. Cat.* Pl. XXXI, no. 2.

[3] Of the five moneyers' monograms found on coins of Lysias, one is shared with Menander, Antimachus II and Strato I; another with Menander, Heliocles and Antialcidas; a third with Antialcidas alone; a fourth with Menander and Antialcidas; and a fifth with Menander, Antimachus II, Antialcidas, Philoxenus, Diomedes and Theophilus.

[4] *B.M. Cat.* p. 102, nos. 1–5.

[5] It is noteworthy that Lysias adds the palm to the club carried by Heracles. Such an unusual addition must have had some special significance. It may be an allusion to the palm of Nike, symbol of Gandhāra, in which case Lysias' coin types would connote his rule over Taxila, Gandhāra and Arachosia (? with Antialcidas for a time as sub-king in the Paropamisadae). The palm might also allude to the palm of the Dioscuri—emblem of Eucratides.

districts after they had passed from the house of Euthydemus to the house of Eucratides. In Rapson's view this tendency may very probably account for Lysias' use of the types 'Bust of king wearing elephant's scalp: Heracles standing' which are identical with those of Demetrius.[1] As to the title *aniketos*, it is sufficient perhaps to note that it was employed by Philoxenus and Artemidorus no less than by Lysias, and if it evidences a relationship to Demetrius in the one case, it ought to evidence it in the others also—a dilemma which should warn us against the unreliability of this kind of evidence.[2] Be this, however, as it may, there is no justification for ignoring the testimony either of the joint-coin referred to above, which gives Lysias precedence over Antialcidas and indicates him as the senior of the two, or the testimony of the coin-types and moneyers' marks which appear to connect him with the kingdom of Taxila and the trans-Indus provinces of Arachosia and Gandhāra. On all his coins Lysias appears as quite a young man, and we may presume, therefore, that his reign was a short one. Possibly he started as a sub-king in Arachosia under Heliocles and followed that king later at Taxila, where we may tentatively assign him to the decade between 135 and 125 B.C.

Antialcidas, whom the joint-coin mentioned above indicates as the successor of Lysias, has the distinction of being the only Greek king whose name has been found inscribed on an Indian monument. This monument is a stone memorial pillar at Besnagar in Gwalior State, which is still standing on the site where it was originally set up, within the walls of the ancient city of Vidiśā.[3] The inscription on it, written in early Brāhmī, records that it was erected in honour of Vāsudeva (Vishṇu) by a Greek named Heliodorus, son of Dion, a Bhāgavat, who had come to Vidiśā from Taxila as ambassador of the Great king Antialcidas to king Kāśīputra Bhāgabhadra, then in the fourteenth year of his reign. The purpose of the embassy is not stated, but it seems more than likely that Antialcidas was seeking to make common cause with the Śuṅga king against their mutual rival Strato I, whose dominions in the Eastern Panjāb lay wedged in between their own. No doubt it was part of the political propaganda of Antialcidas for his ambassador to proclaim himself a follower of Vishṇu (Bhāgavata) and set up a pillar in honour of that deity; and indeed it is quite possible that in the Panjāb itself Antialcidas was playing up to the Brāhmanical faction and making such use of it as he could to undermine the power of the Euthydemids east of the Jhelum. Kāśīputra Bhāgabhadra, who is referred to in this record, has been identified by Rapson with the Bhāga or Bhāgavata who figures in the Puranic list as the last but one of the Śuṅga kings, and who, according to the indications afforded by that list, was reigning from *c.* 114 B.C. to 82 B.C. His fourteenth year would thus coincide with *c.* 100 B.C.,

Antialcidas

Besnagar inscription

[1] *C.H.I.* I, p. 559.

[2] The same remark applies to the title *nikephoros*, which is used by Antimachus II, Antialcidas, Epander and Archebius, the first belonging to the house of Euthydemus, the other three to that of Eucratides.

[3] The inscription was originally published by the writer in *J.R.A.S.* (1909), pp. 1055 *sqq.* Cf. also Vogel in *A.S.I.* (1908–9), p. 126; *C.H.I.* I, pp. 521, 558, 625; Tarn, *op. cit.* pp. 313, 380, 406; H. Raychaudhuri, *J.A.S.B.* XVIII (1923), pp. 269–71; V. Bhattacharya, *I.H.Q.* VIII (1932), p. 610.

and if Antialcidas came to the throne about 125 B.C., he may well have been reigning as late as that date.[1] Rapson's identification, however, is by no means certain, since Bhilsa has yielded another inscription dated in the twelfth year of a king named Bhāgavata,[2] and this inscription is written in decidedly later characters than the Heliodorus one. It may be, therefore, that, as the late Mr N. G. Majumdar inferred,[3] there were two kings of the same name at Vidiśā, one of whom was reigning some time between about 150 and 125 B.C. and the other half a century later. If this inference is correct, we must conclude that the embassy of Heliodorus took place very early in the reign of Antialcidas—perhaps immediately after his accession.

Coinage of Antialcidas

The silver coins of Antialcidas bear on the obverse the bust of the king—diademed, helmeted, or wearing the flat *kausia*—and on the reverse the enthroned Zeus Nikephoros, with forepart of elephant, which from the time of Eucratides onwards was the characteristic type of the city of Kāpiśī. Most of these coins were bilingual and conformed to the reduced Indian standard; but one issue of tetradrachms[4] and one of drachms[5] were on the Attic standard then in use in Bactria and bore a Greek legend only, viz. 'Of king Antialcidas, the Victorious'. These particular issues, though struck at Kāpiśī, may perhaps, as Tarn has tentatively suggested, indicate that Antialcidas retained some territory to the north of the Hindu Kush,[6] though it is equally likely that they were intended simply for purposes of trade with Bactria.[7] They mark the last appearance of the Attic standard south of the Hindu Kush.

With one exception the copper coins of Antialcidas, both round and square, bear the bust of Zeus with thunderbolt on the obverse, and the *pilei* and palms of the Dioscuri on the reverse. The exception referred to is a square issue with the bust of the king on the obverse and an elephant holding a wreath in its upraised trunk on the reverse.[8] The association of the elephant with Taxila has already been commented on.[9] As to the *pilei*, they were, as we have seen, emblematic of the Great Twin Brethren, and had been used in place of the complete figures of the two horsemen by Eucratides, who may possibly have struck some of his copper pieces bearing this device at Taxila itself.[10] In the legends on these coins, both

[1] Tarn (*op. cit.* pp. 313–14) maintains that Antialcidas could not have been reigning after *c.* 100 B.C. for the reason that five kings of Gandhāra intervened between the death of Antialcidas and the conquest of the Śaka, Maues. It seems more probable, however, as already noted (p. 34 *supra*) that the kings in question Philoxenus, Epander, Diomedes, Artemidorus and Peucolaus—or at least the first four of them, were sub-kings under the kings of the Panjāb (Menander, Strato I, Heliocles and Antialcidas) rather than independent rulers.

[2] Cf. D. R. Bhandarkar, *A.S.I.* (1913–14), p. 190.

[3] Cf. Marshall and Foucher, *The Monuments of Sāñchī*, pp. 268 (n. 2) and 270.

[4] *B.M. Cat.* p. 25, 1 and Pl. VII, no. 9.

[5] *P.M. Cat.* p. 36 (v).

[6] Tarn, *op. cit.* pp. 273–4.

[7] A silver issue of Apollodotus of the 'Elephant and bull' type, struck at Taxila or Pushkalāvatī, was also on the Attic standard, though Apollodotus never ruled over any part of Bactria. *B.M. Cat.* p. 34; Tarn, *ibid.*

[8] R.U.C. nos. 72–4; *P.M. Cat.* p. 36, no. 212 and Pl. IV.

[9] *Vide supra*, p. 30.

[10] *Vide supra*, p. 32.

Greek and Kharoshṭhī, Antialcidas is designated simply 'king', not 'great king', as he is in the Besnagar inscription. In the latter case the higher title was no doubt intended to impress the Śuṅga king of Vidiśā, for whom the use of the word 'great' would not in any case have the same significance as it had for the Greek subjects of Antialcidas in the North-West.[1]

Archebius

The '*pilei* of the Dioscuri' device which figures on coins of Eucratides, of Lysias with Antialcidas, and of Antialcidas alone, is found also on coins of the Greek king Archebius and of the Śaka satrap Liaka Kusūlaka, who was satrap under Maues of the district of Chukhsa in the neighbourhood of Taxila. Hence it has been inferred that Archebius was the successor of Antialcidas, and that after his reign Taxila passed from the Yavanas to the Śakas.[2] This may, indeed, have been so, but we feel bound to observe that the evidence is far from being as conclusive as has been asserted.[3] The *pilei* on the coins of Archebius point to his having ruled at Taxila, but they do not afford any indication of when he ruled there. Had Liaka Kusūlaka imitated the coins of Archebius, there would have been more reason perhaps for concluding that he came immediately after him, but the coins which Liaka Kusūlaka copied were those of Eucratides, not of Archebius. Moreover, though Archebius shares a somewhat distinctive moneyer's mark with Maues, he also shares the same mark with Strato I, Polyxenus and Philoxenus, while another distinctive mark he also shares with Apollodotus I, Strato I, Polyxenus and Epander. From the quality and style of the engravings on his coins nothing definite as to their age can be inferred. They are certainly as good as anything produced by the engravers of Menander or Antialcidas, but there is no reason to suppose that it was any more difficult to find a good engraver at the end than in the middle of the second century B.C., and it would be unsafe, therefore, to use the workmanship of these coins, excellent as it undoubtedly is, as a criterion of their age. For the time being, then, and until further evidence becomes available, we must, it seems, reserve judgment on the date of Archebius. In all probability the current view will prove to be the correct one, but it should be understood that it rests on little more than surmise.

The Greek city in Sirkap

The one outstanding monument of the Greeks at Taxila that has survived the wreck of the ages is the city which they founded in Sirkap (chs. 4–6). In contrast with the irregular, haphazard planning of the older city on the Bhiṛ Mound, this new city was laid out on the symmetrical chess-board pattern characteristic of other Hellenistic cities of this period, and it was protected, moreover, by a bastioned wall of stone in place of the older mound of beaten earth or unbaked brick which surrounded the Bhiṛ Mound city. Unfortunately, owing to the great depth at which the Greek city lies buried beneath the ruins of the Śaka and Parthian cities which succeeded it, relatively little of its interior has yet been excavated; enough has

[1] The only Indo-Greek king who had styled himself 'great' in the Greek legend on his coins was Eucratides. Later on Hippostratus and Apollodotus II were to use the same title, but that was not until after Maues and his successor had introduced the title 'great king of kings'.

[2] *C.H.I.* I, p. 559.

[3] Tarn, *op. cit.* p. 315.

been done, however, to show that the lay-out of the streets was virtually the same as that maintained in the later Śaka and Parthian cities; and, so far as can be judged from the few private houses exposed to view, it seems that they too, though somewhat more symmetrical in plan, were generally similar to their successors.[1]

Greek arts and crafts

In the sphere of arts and crafts the Greeks made many valuable contributions to the material culture of the North-West. It was they who introduced a vastly superior type of coin, bearing the name and, usually, the portrait of the ruling sovereign stamped upon it in relief, with the legend repeated in the Indian as well as in the Greek script. It was they who encouraged the use of schist and other soft stones for the manufacture of the carved dishes, cups, goblets, toilet-trays and the like which are found in such abundance in Sirkap. It was the Greeks, again, who taught the Indian metal-worker how to render bronze more malleable and easier to cast by adding lead to the alloy; and how to cast in bronze and copper by the 'cire perdue' process. It was the Greeks, too, who were responsible for the introduction of 'packtong' bronze—an alloy of copper and nickel—from China into the North-West, and probably, also, for the invention of brass—an alloy of copper and zinc—though the authorship of this last discovery is open to question.

Individual objects from the Greek houses in Sirkap are fully described in chapter 4 (pp. 130 ff.). Here I need only note that such of them as are of a specifically Greek character include earthenware amphorae and handled jugs; specimens of embossed and black varnished ware; metal inkpots (which now make their first appearance at Taxila); incense burners; terra-cotta figurines; stone dishes of the *phiale mesomphalos* pattern, and toilet-trays adorned with characteristically classical reliefs.

Greek administration

In the government of their Indian dominions the Greeks very naturally followed, so far as they were able, the Seleucid precedents, though there was this radical difference between the Seleucid empire and the Greek kingdoms in India—that, whereas the former was essentially a Greek organisation dependent on the presence of large bodies of Graeco-Macedonian settlers in its cities and military colonies, the latter remained basically Indian with a small Greek ruling caste, which was largely dependent on the goodwill and co-operation of its Indian subjects.[2] The basis of this Greek administrative system in India seems to have been the old Achaemenid 'satrapy', the head of which was still styled a satrap,[3] though there is reason for inferring that his subordinate governors bore the Greek title of

[1] Tarn (*op. cit.* p. 247) says that Taxila was an Indian city and that no indication of a Greek quarter has been found there; he also says that the description of Sāgala in the *Milindapañha* is that of a great Indian city. The truth, of course, is that Sirkap was a wholly Greek city, and it is highly probable that Sāgala, the capital of Menander, was equally Greek. The description in the *Milindapañha* accords with this.

[2] Cf. Tarn, *op. cit.* p. 259.

[3] Tarn (*op. cit.* p. 241) holds that the Greek satrapies in India were governed by *strategoi*, but his statement that the title *strategos* was used on coins of both Śaka and Parthian kings in India and may be assumed to have been taken over by them from the Greeks, is incorrect. The one and only chief who styled himself *strategos* was Aśpavarma, and the title seems to have been distinct from that of satrap, which was the one normally used by governors of satrapies.

meridarch, that is, ruler of a *meris* or 'division', like a present-day 'divisional commissioner'.[1]

One such meridarch, whose name unfortunately has been lost, is mentioned in a copper-plate inscription from stūpa 14 near the village of Shāhpur at Taxila, which apparently dates from the period of Śaka rule[2] (late first century B.C.). Another meridarch named Theodorus, who dedicated a stūpa with a relic of Śākyamuni in the Swāt valley, may have been a divisional governor in that district during the period of Greek, but more probably perhaps of Śaka, rule.[3]

Use of Greek language

Whether the Greeks in India used Greek as their official language for administrative purposes is not certain. Their coins bear bilingual legends: Greek on the one side, Kharoshṭhī on the other. But apart from the coins and a few rough graffiti,[4] no Greek records of any kind have been found in India. The inscriptions of the two meridarchs mentioned above employ the Prākrit vernacular of the North-West with the Kharoshṭhī script; the inscription of Heliodorus at Vidiśā (p. 37) is also in Prākrit but written in the early Brāhmī character. It seems probable, therefore, that the Greeks normally used the speech and writing of their subject peoples, resorting to Greek only for exceptional purposes, e.g. for their coin legends (as we ourselves make use of Latin) or in their dealings with Hellenistic countries to the west. Such adoption of a foreign tongue would have come about all the more quickly if, as seems likely, the Greek invaders intermarried freely with the women of the Panjāb and North-West. Apropos of this it has been argued that, where the father is of a higher civilisation than the mother, the children are apt to follow his language and civilisation, as they did in the familiar case of the mutineers of the *Bounty*,[5] and that consequently the Greeks in India can hardly have failed to preserve their Greek speech. This, however, is to beg the question, since in the second century B.C. it would have been hard to say which civilisation was the higher, the Indian or the Greek. The latter, certainly, succeeded in impressing itself widely on Western Asia, just as the former impressed itself widely on Eastern Asia, but in the Panjāb and North-West, where the Greeks were established for well over a hundred years, their civilisation does not seem to have struck very deep. True, their civic institutions were perpetuated to some extent by their successors, the Śakas and the Parthians, and their influence also left an enduring mark on the material culture of the country, particularly on its arts and crafts. But it must be recognised that what India took from Greece in these or other spheres was mainly externals, which did not really touch her inner spirit. Certainly there is nothing in the religion or religious philosophy of India, which more than

[1] Thomas, *Festgrüss Windisch* and *J.R.A.S.* (1916), pp. 279 ff.; *C.H.I.* I, p. 577 n. 2; Tarn, *op. cit.* p. 242. It is noteworthy that meridarchs are not found in the Seleucid empire except in Palestine.

[2] The inscription records merely the erection of a stūpa by the meridarch and his wife in honour of his mother and father. *C.I.I.* II, pp. 4–5.

[3] *C.I.I.* II, pp. 1–4.

[4] The graffiti referred to are very roughly scratched on the surface of a terra-cotta ball (diam. 1·5 in.), which was found in Sirkap (Sk. '29–3,207) at a depth of 15 ft. below the surface in square 12·89'. The graffiti seem to be a crude attempt at writing the word ΦΙΛΕΛΛΗΝΟΣ, which might have been copied from a Parthian coin.

[5] Tarn, *op. cit.* p. 36 n. 5.

anything else give us the keynote to her national life and thought, to suggest that they owed any substantial debt to Greek inspiration. On the other hand, there is some evidence to show that the Greeks themselves came under the influence of Indian religious thought, and that some of them became converts to one or other of the prevailing creeds. In the case of Buddhism, they may, on their first entry into the country, have done this as a matter of policy; for not only were the majority of their new subjects Buddhists, but Greek and Buddhist alike had a common foe in the Śuṅga Pushyamitra, who had shown himself a supporter of Brāhmanical reaction and a bitter persecutor of the Buddhist Church. It is likely enough, too, that, as we have already seen, Heliodorus, the ambassador of Antialcidas, proclaimed his Vaishnava sympathies in an effort to curry favour with the royal court at Vidiśā. But, speaking generally, there is no reason to suppose that Greeks like Menander or Theodorus the meridarch, or Theodorus the son of Theorus—and for every Greek Buddhist known to us there must have been hundreds whose names are lost in oblivion—were Buddhist except by personal conviction. Nor is this to be wondered at; for the teaching of Śākyamuni, as accepted in the second century B.C., with its markedly ethical character, its logical reasoning, its recognition of the all-important part played by free-will, and the emphasis it laid on the observance of the golden mean, was bound to make a strong appeal to the Greek mentality, notwithstanding that it had its origin in a view of life altogether more negative and joyless than the Greek.

Greeks and Buddhists

Greek influence on Buddhist art

Perhaps the most significant testimony to the community of ideas between Greeks and Buddhists is to be seen in the striking part which Hellenistic art played in shaping the character of Buddhist art throughout the North-West. In the case of the Mālwā School of Sculpture, I have shown elsewhere[1] how the *saṅghārāma* at Sāñchī recruited its artists from the neighbouring cities of Vidiśā, Ujjayinī, etc., and how, as a consequence, the reliefs of the Sāñchī gateways came to be infused with the same mundane and sensuous spirit as the ordinary genre sculptures then prevalent in that part of India—a spirit that was glaringly at variance with the teachings of the Buddha. At Taxila and in the North-West much the same thing happened; but there the Church employed Indo-Greek instead of Indian artists, with the result that Buddhist formative art in this part of India became markedly Greek in character and developed a formal, academic style of its own, far better suited to the ecclesiastic needs of the *saṅgha* than the patently secular and often highly naturalistic work of Central India. Though the Gandhāra School did not come into being until shortly before the Christian era, and though it adhered closely to the established Buddhist formulas of the Early Indian Schools, which had already reached their zenith, it also drew its inspiration in a large measure from the traditions and examples of Hellenistic art that were still surviving in that quarter of India. At Taxila, there is no contemporary evidence to prove whether the Greeks had any share in the evolution of Buddhist architecture and sculpture during the second century B.C. All that can be said is

[1] *Monuments of Sāñchī*, pp. 153–4.

that Greek influence is clearly apparent in the earliest Buddhist monuments yet known to us in the North-West, namely, those erected under Śaka rule in the first century B.C., and from these it is reasonable to conclude that this influence went back to the preceding century, when the Greeks were paramount at Taxila. In like manner, the great temple at Jaṇḍiāl, which dates from the same century, demonstrates by its essentially classical design the perseverance of Greek ideas up to that time and leaves little room for doubt that Hellenistic architecture had long been a familiar sight at Taxila. Had the Śakas remained in power, Hellenism must inevitably have faded out sooner than it did in the Panjāb; but, as it happened, the Parthians, who supplanted the Śakas, were ardent philhellenes, and under their sway Hellenism was to receive a new and unexpected impetus, which largely accounts for the remarkable wealth of Greek and Indo-Greek objects that make their appearance at Taxila in the first century A.D.

Taxila as a university centre

In early Buddhist literature, particularly in the *Jātakas*, Taxila is frequently mentioned as a university centre where students could get instruction in almost any subject, religious or secular, from the *Veda* to mathematics and medicine, even to astrology and archery. This pre-eminence of the city as a seat of academic and practical teaching was a natural outcome of her geographical position at the north-western gateway of India and of the peculiarly cosmopolitan character of her population; for we can hardly doubt that the interchange of eastern and western ideas during the period following the Persian conquest must have done much to stimulate the spread of knowledge, and that this stimulus became increasingly stronger under Maurya and Greek rule in the third and second centuries B.C. Whether there was any systematic organisation for the professors or their pupils we do not know. The probability is that both alike were independent of the State and that the teachers were normally independent of one another, though in some cases they may have been associated together in a *sabhā* and worked more or less in accordance with its rules and regulations. There is no reason, however, to suppose that, apart possibly from a common assembly hall, they possessed either property or endowments, or that they enjoyed the use of common lecture halls, libraries or the like. This, at any rate, appears to have been the state of things up to the beginning of the second century B.C. With the advent of the Greeks there may conceivably have been a change. The Greeks themselves were accustomed to a different type of educational institution. In Greece proper higher education and research had from the time of Plato onwards been in the hands of the various Academy Schools, which, by virtue of their nominally religious character, could be endowed with property of their own and enjoy the right of legal succession and other amenities attaching to religious corporations. In the Hellenistic kingdoms of the Nearer East, on the other hand, higher education, with literary and scientific research of every kind, was in the hands of royal universities such as those at Alexandria, Antioch, Pergamum, etc., which were housed in a single imposing group of buildings—an adjunct of the royal palace—and maintained exclusively at the expense of the State, the president and professorial

staff holding their appointments at the pleasure of the king. In putting the old type of independent academy on a royal footing Ptolemy Soter and his Seleucid and Attalid imitators no doubt had in mind the danger to the State which such an academy might constitute, unless kept under close control, as well as the very important part it could play, and had in fact already played, in supporting a monarchic form of government. Whether the Greek kings of Taxila or any other Greek kings in the Middle East followed their example there is no evidence, one way or the other, to show, but it is clearly a possibility that cannot be summarily dismissed. For further information on this subject the reader's attention is invited to the two illuminating notes by Prof. F. W. Thomas and Dr Lionel Barnett printed in Appendix B to this chapter.

The Śakas and their history

The eclipse of Greek rule at Taxila was brought about by an invasion of nomad tribes from the interior of Asia. Known to the western world under the comprehensive name of Scythians, to the Indians as Śaka, and to the Chinese as Saï or Sai-wang, these invaders came principally from the three great tribes of Massagetai, Sacaraucae and Dahae, whose home at the beginning of the second century B.C. was in the country between the Caspian and Jaxartes river.[1] Driven thence under pressure by the Great Yüeh-chi they had moved south into Ferghāna,[2] and overrun Parthia[3] and Sīstān (Śakasthāna), where an earlier wave of Śaka settlers—possibly mercenaries of Mithridates I—had already established themselves. From Parthia and Sīstān they were expelled, after a protracted struggle, by the Suren of Eastern Irān. That was in the early years of the reign of Mithridates II, the Great (123–88 B.C.), from whom the Suren received the conquered Sīstān as a personal fief.[4] Consequent on this defeat the Śakas turned eastward from the Helmand and made their way through Baluchistān to the Indus Delta country in lower Sind, which thereafter was to be known as 'Śaka-dvīpa' (the river-country of the Śakas) and to become for a while their main base for further conquests. These conquests extended in two directions. In the south-east the newcomers occupied Cutch (Kacchā) and Kāthiāwār (Surāshtra) and the coastal region beyond, including the valuable port of Broach (Bharukaccha = Gr. *Barygaza*), from which they penetrated up the Nerbudda valley to Ujjain; in the north-east they pushed up the Indus to the Western Panjāb and Taxila. These conquests took several decades to achieve. The lower Indus country, comprising the Greek Abiria and Patalene, was probably occupied by 110 B.C., but, according to Jaina tradition,[5]

[1] According to Konow (*C.I.I.* II, p. xix) they were occupying the country as far east as the Issik-kul lake.

[2] Cf. Tarn, *op. cit.* pp. 278–9. According to Chang-k'ien, the conquest of Bactria proper was the work of the Yüeh-chi, not of the Śakas.

[3] The Śakas seem to have overrun a great part of the Parthian empire about 130 B.C. They then founded the Śaka dynasty of Adiabene to the east of the Tigris and perhaps Characene (Muhammarah) on the Persian Gulf. E. Herzfeld, *Iran in the Ancient East*, p. 191.

[4] Herzfeld, *Sakastan*, pp. 70–80; Tarn, *op. cit.* pp. 320, 499.

[5] According to the *Kālakāchāryakathānaka* (ed. Jacobi, *Z.D.M.G.* 34 (1880), pp. 247 ff.), certain feudatories of the Śaka king of kings, who were in disgrace with their overlord, were induced by the Jaina teacher, Kālaka, to accompany him from Sagakūla (? Śakadvīpa) to Hindukadeśa. They embarked in ships and sailed to Surāshtra, which they proceeded to divide among themselves. Thence, in the

Kāthiāwār did not come into their possession until 61 B.C., and Ujjain a few months later. The conquest of the Western Panjāb and Taxila, on the other hand, must have taken place at least two decades earlier. This seems clear from the evidence of contemporary inscriptions and coins. The leader in the Śaka conquest of Taxila was a chief whose name in Greek appears as 'Maues' or 'Mauakes', in Kharoshṭhī as Moa or Moga, in Chinese as Mu-ku'a.[1] In a well-known copper plate inscription from Taxila, he is mentioned as the ruling maharāja in the year 78 of an unspecified era; and the same era is apparently used in two other records of this period—one from Mānsehra near Abbottabad on the old high road to Kashmīr,[2] the other from Fatehjang in the Attock District[3]—both of which are dated in the year 68, that is, ten years before the Taxila copper plate. Now, the initial year of the early Śaka era in which these three records are dated is not precisely known, but there can now be little room for doubt that it fell round about either 150 or 155 B.C. The former date was favoured by Rapson, who suggested that the era may have marked the establishment of the kingdom of Sīstān after its incorporation in the Parthian empire of Mithridates I.[4] Tarn, with greater plausibility, argues that the era must have had a Śaka, not a Parthian, origin and that it commemorated the settlement of Śaka immigrants in Sīstān by Mithridates I about the year 155 B.C.[5] If Tarn, as seems highly probable, is correct, then the date of the Taxila copper plate would be *c.* 77 B.C. and that of the Mānsehrā and Fatehjang records *c.* 87 B.C.; and assuming, as we reasonably may, that the settlement of the new Śaka kingdom had taken some two or three years to accomplish, we arrive at 90 B.C. as the approximate date when the last of the Greek kings of Taxila was overthrown by Maues.[6] These dates accord well with the numismatic evidence. Maues' coins are found in considerable numbers in the Western Panjāb and Gandhāra, and exhibit a remarkable variety of types. It may be inferred, therefore, that his reign was a long one, and if, as there is reason to believe, he died about 53 B.C., he probably assumed the title of king and started issuing coins very soon after his occupation of Taxila. That he struck coins in Sind before coming into possession of the Greek mint at Taxila, is improbable, since the types of his earliest coins seem to indicate that he was already in possession of the Greek dominions between the Jhelum and

Conquest of Taxila by Maues (*c.* 90 B.C.)

Coinage and titles of Maues

following autumn, Kālaka led them to Ujjayinī, where the King Gardabhilla, who had abducted the teacher's sister, was made prisoner (cf. Konow, in *C.I.I.* II, pp. xxvi, xxvii). Tarn (*op. cit.* p. 335) accepts the substance of the Jaina story, but assumes, for no apparent reason, that the Śaka conqueror of Ujjain must have been Maues and uses this assumption as evidence of Maues' death in 58 B.C. See pp. 50–1 *infra*.

[1] A Mauakes was leader of the Sacae at Gaugamela (Arr. III, 8, 3) and a Mu-ku'a king of Ferghāna in 101 B.C. Hirth, *J.A.O.S.* XXXVII (1917), p. 89; Tarn, *op. cit.* pp. 308, 496.

[2] *C.I.I.* II, pp. 18–20 and Pl. IV, no. 2.

[3] *Ibid.* pp. 21–2 and Pl. IV, no. 1.

[4] *C.H.I.* I, p. 570.

[5] Tarn, *op. cit.* p. 496.

[6] In the *Cambridge History of India* (I, p. 568) Rapson takes the view that the Śaka invasion 'must be ascribed to a period *after* the reign of Mithridates II (123–88 B.C.), when the power of Parthia had declined and kingdoms once subordinate had become independent'. It seems more probable, however, that the invasion of Sind was directly due to the pressure exerted by Parthia on Sīstān during the reign of that king.

the Indus.[1] On these early issues Maues styles himself 'king'—*basileus* in the Greek legends, *mahārāja* in the Kharoshṭhī. The prouder title 'great king of kings', which is found on the vast majority of his coins and which he no doubt copied from Mithridates II,[2] could not have been assumed by him until after the death of that monarch in 88 B.C. In the Taxila copper plate Maues is styled 'the great king, the great Moga', and it has been inferred from this that he had not then (*c.* 77 B.C.) assumed the title 'king of kings'. There are really no grounds, however, for this inference, since many instances might be quoted of a 'great king of kings' being referred to merely as 'great king'. Thus Gondophares, who is ordinarily styled βασιλεὺς βασιλέων μέγας on his coins, appears in the Takht-i-Bahi inscription—dated in the twenty-sixth year of his reign—merely as *mahārāya*; and even on some of his coins, though he is given the superior title in the Greek legend on the obverse, the word *rājatirāja* is omitted from the Kharoshṭhī on the reverse.[3] Similarly, in the Sui Vihar copper plate inscription of the eleventh year of his reign Kanishka is styled *mahārāja rājatirāja*, but in the Zeda stone inscription of the same year he is given nothing more than the title of *marjhaka* (? 'rich in treasure').[4] This being so, it would obviously be unsafe to conclude from the absence of the word *rājatirāja* in the Taxila record that Maues did not assume that title until 77 B.C. or after.

In Parthia itself the title 'king of kings' was in abeyance from 88 to 57 B.C., i.e. between the reigns of Mithridates II and Mithridates III.[5] Tigranes of Armenia, another rival of Parthia, assumed it during the years 77–73 B.C., and it may well be that he was copying a precedent already set by Maues. Certainly the number and variety of Maues' coins would lead one to suppose that he assumed the higher title before 77 B.C., particularly as for some years at least he appears to have been making use of one mint only, viz. that of Taxila.

Extent of his conquests

The coins of Maues were directly imitated from those of the Greek kings who preceded him, and they thus afford a clear indication of the extent of his conquests. After possessing himself of Taxila, Maues had the choice of either crossing the Jhelum and attacking the Greek kingdom in the Eastern Panjāb or of crossing the Indus and attacking Gandhāra and the Paropamisadae. Doubtless he had political as well as other reasons for adopting the latter course. For one thing, he may have wanted to make contact with the Parsii—also of Śaka extraction—who had already found their way into Arachosia;[6] for another, he may have been

[1] These types are the 'Standing Apollo and tripod' of Apollodotus, the 'Elephant's head' of Demetrius, and the trotting horse copied from later imitations of Heliocles coins. Cf. Tarn, *op. cit.* p. 322 and footnotes for references to types. Tarn, ignoring or rejecting altogether the evidence of the Fatehjang and Mānsehra inscriptions, puts the conquest of Taxila 'not much before 77 B.C.' and the conquest of Gandhāra some seven years later. The former date is almost certainly too late.

[2] The title 'king of kings', which in the Parthian empire was first assumed by Mithridates II or possibly Mithridates I, was copied from the Achaemenid *kshāyathiyānām kshāyathiya*. *C.H.I.* I, p. 567; *C.I.I.* II, pp. xxvii, xxviii; Wroth, *B.M. Cat. Parthia*, p. xxv, note.

[3] E.g. *P.M. Cat.* p. 147, nos. 8–19.

[4] Cf. Konow in *C.I.I.* II, p. 143.

[5] *C.H.I.* I, p. 569 and note 1.

[6] On the Parsii, see Tarn, *op. cit.* pp. 292–5, 469.

anxious to extend his dominions up to the Hindu Kush, so as to prevent the Yüeh-chi establishing themselves south of that range and becoming a standing menace in the north.

Gandhāra and the Paropamisadae

The generally accepted view in regard to Maues' trans-Indus conquests is that he occupied Gandhāra only, not the Paropamisadae. Thus Rapson, in the *Cambridge History of India*, writes: 'For a time the remnants of the two Yavana houses in the Upper Kābul valley and in the Eastern Panjāb seem to have been separated by the Śaka dominions (of Maues) which lay between them in the valley of the Indus.'[1] That Maues, however, annexed Kāpiśa[2] as well as Gandhāra, seems indicated not only by those coins of his which show the 'Zeus enthroned' type of Kāpiśa copied from antecedent coins of Eucratides, Antialcidas and Telephus, but by the fact that some of his coins actually bear the same peculiar moneyers' monograms as those of Telephus.[3]

Naval victory on the Indus or Jhelum

A naval victory which Maues presumably won on one of the Panjāb rivers is commemorated on his coinage by the figure of Poseidon with trident resting his foot on a river-god or hurling his thunderbolt at another figure clinging to the stern of a sinking galley.[4] Tarn suggests that the victory in question was won by Maues over a Greek fleet on the Indus as he fought his way up from Sind, and that it gave him control of the river and opened the way to Taxila. Had this been so, however, the victory would naturally have been celebrated on Maues' early coinage, which was issued soon after his occupation at Taxila, not some years later when he had become 'great king of kings'. Since all the Poseidon coins bear the higher title, it seems more likely that this naval victory was gained on the upper Indus when Maues was advancing across the river to the attack of Gandhāra, though another possibility is that the battle was fought on the Jhelum against the eastern Greeks; indeed, it may have been the same battle that was commemorated on coins of Nicias, both sides, as has not infrequently happened, claiming the victory.

Satraps of Chukhsa

In the inscription of the year 78, referred to above, mention is made of a satrap of Chukhsa, Liaka Kusūlaka by name, and of his son Pātika. We shall hear more of the satraps of Chukhsa later on. They were powerful chiefs whose main duty was no doubt the guarding of the northern frontiers and the Indus crossings.

[1] *C.H.I.* I, pp. 570–1.

[2] Maues' occupation of Kāpiśa may possibly be referred to in a passage in the *T'sien Han-shu* (ch. 96, *b*, fol. 10, v), that is, if the Chinese Ki-pin is to be identified, as some scholars have held, with Kāpiśa, but Chinese writers are too vague about the location of Ki-pin for their testimony to be of any real value. The passage in question is to the effect that after the defeat of the Yüeh-chi by the Hiung-nu, the former went westward and made themselves masters of Tāhia, but the Saï-wang went southward and made themselves masters of Ki-pin. The same statement is made in the *Encyclopaedia of Ma-twan-lin.* See Konow in *C.I.I.* II, pp. xxiii–xxiv; *C.H.I.* I, p. 566; Tarn, *op. cit.* pp. 277–8; O. Franke, *Beiträge aus chinesischen Quellen*, pp. 46, 54 and 63 ff.; A. Wylie in *J.A.I.* X (1881), pp. 33 ff.

[3] Whitehead, *J.A.S.B.* VI (1910); Num. Supp. XIV, p. 561; Tarn, *op. cit.* pp. 496–7. Whitehead, however, is now inclined to locate Telephus at Taxila rather than at Kāpiśī.

[4] For the coins, cf. R.U.C. nos. 114–17; Whitehead, *N.C.* p. 334, no. 53, Pl. XVI, no. 14; and see Tarn, *op. cit.* pp. 328–9.

The name Chukhsa may be preserved in the modern Chach, a broad alluvial plain in the north of the Attock District, alongside the Indus, but the satrapy must, of course, have been very much larger than Chach. In all probability it lay along both banks of the Indus, comprising at least the Peshāwar valley on its west and most of the Hazāra, Attock and Miānwāli Districts on its east.[1] Liaka Kusūlaka struck his own coins, with the type 'Helmeted head of king and *pilei* of the Dioscuri' copied from coins of Eucratides, and we shall see later that the same privilege was exercised by his descendant Zeionises in the reign of Gondophares (p. 61). No coins, however, are known of his son Pātika, who was later to become 'great satrap'.

Liaka Kusūlaka and Pātika

The date of Maues' death is uncertain. For some time the generally accepted view has been that he died and was succeeded by Azes I in 58 B.C. Confirmation of this date, so far as Azes I was concerned, seemed to be furnished by two inscriptions from Taxila described on pp. 256 and 327 below. These inscriptions are dated, respectively, in the years 134 and 136 'of Azes', and inasmuch as they can be shown on other grounds to belong to the latter part of the first century A.D., it is difficult to escape the conclusion that the 'era of Azes' employed in them as well as in various other records of the first and second centuries A.D. was identical with the Vikrama era of 58 B.C., though known at Taxila by another name. This dating, however, has recently been challenged by Dr Tarn. He holds that Maues died about 58 B.C., but that his empire then collapsed and that Azes I did not succeed until some 27 years later. He thinks that a key to the chronology can be found in a story related in the *T'sien Han-shu*, which is important enough to deserve repetition. The story runs that a certain king of Ki-pin, W'ou-ti-lao by name, killed some Chinese envoys. After W'ou-ti-lao's death his son, wishing to make peace, despatched an envoy with gifts to China, and Wen-chung, the Chinese general at the barrier, was sent to escort the envoy home. W'ou-ti-lao's son plotted to kill Wen-chung, but the plot was discovered, and Wen-chung then allied himself with Yin-mo-fu, son of the king of Yung-kiu; the two together attacked Ki-pin and killed W'ou-ti-lao's son, and Yin-mo-fu was installed as king of Ki-pin. Subsequently Yin-mo-fu, in the reign of the Chinese emperor Yuan-ti (48–33 B.C.), killed the escort of a Chinese envoy and afterwards sent envoys to China to excuse himself, first during the reign of Yuan-ti and afterwards during that of Ching-ti (32–7 B.C.).[2]

Date of Maues' death

Story of W'ou-ti-lao

In the above story the name of W'ou-ti-lao was recognised by Wylie some years ago as the Chinese transliteration of the Greek word ἀδελφοῦ—a title, meaning 'brother' of the king, by which Śpalyris (Spalahores) and Śpalirises are designated on their coins.[3] And Yin-mo-fu was identified by Von Gutschmid[4] with Hermaeus, Ki-pin with Kophen, and Yung-kiu with Yonaki, i.e. 'Greek town' (*sc.* Alexandria

Identification of Chinese names; sequence of Arachosian rulers

[1] It is not unlikely that the new Śaka satrapy corresponded roughly with the old Greek sub-kingdom ruled by Antimachus II, Polyxenus, Epander, etc.

[2] Tarn, *op. cit.* pp. 339–41.

[3] Wylie in *J.A.I.* x (1881), p. 36.

[4] *Geschichte Irans*, pp. 109–10. Cf. Tarn, *op. cit.* p. 340.

of the Caucasus). Accepting these identifications, Tarn has reconstructed the history briefly as follows. Śpalyris, his son Śpalagadames, and Śpalirises were Śaka (Parsii) rulers of Arachosia under the suzerainty of the Parthian Suren Vonones, who some years after Maues' death (probably in 53–52 B.C.) took the title 'great king of kings' and died about 40 B.C. In Tarn's view, the title 'brother of the king' used on their coins does not imply that Śpalyris and Śpalirises were actual blood brothers of the Parthian Vonones. It was merely a title of honour which had long been in use at the Hellenistic courts and from them, no doubt, adopted by the Parthians.[1] In 49 B.C. or thereabouts Śpalagadames, the son of Śpalyris, was killed by Hermaeus (with the help of a Yüeh-chi chief) and was succeeded by Śpalirises, who overthrew Hermaeus (*c.* 30 B.C.), annexed Kāpiśī, and took the title 'king of kings', which he conferred also on his son, Azes I.

A different view of the events and chronology of this period is taken by Rapson in the *Cambridge History of India*.[2] He takes Azes, the son of Śpalirises, to be Azes II, not Azes I; he holds that Śpalyris and Śpalagadames were actual brothers of Vonones, and he infers accordingly that the latter began to reign about 30 B.C. Azes I and Azilises he places before, instead of after, the Arachosian group of rulers, and accepts 58 B.C. as the date when Azes I came to the throne.

Evidence of Arachosian coinage

To Rapson's scheme various objections have been raised by Tarn, which there is no need to repeat here. But there is one insuperable objection, as it seems to me, which has not yet been noticed. It concerns the series of coins struck by these rulers in the Arachosian mint, viz. Vonones with Śpalahores, Vonones with Śpalagadames, Śpalirises with Azes, Azes alone, and Azilises. These coins form a small and very distinctive and closely connected group. The most noteworthy type is that found on the round silver issues. On the obverse is the king on horseback to right, with couched spear and Greek legend; on the reverse, the figure of Zeus radiate standing to front leaning on long sceptre held in left hand and holding thunderbolt in right hand.[3] The figure of Zeus is peculiar and unlike that on any other coins of the Greeks or Śakas. It is copied from coins of Heliocles but the drawing is inferior. The bearded head of the god is bent sideways and downwards and pressed into the shoulders, and the left elbow is bent at a sharper angle than on coins of Heliocles. The Kharoshṭhī legends around the margin of the reverse are also distinctive; for the lettering in every case is strikingly clumsy and irregular and is evidently the work of an engraver unaccustomed to the Kharoshṭhī alphabet, doubtless because Kharoshṭhī was little used in Arachosia. Now, the strange-looking figures of Zeus described above, which must almost certainly be the work of one and the same engraver, are found only on coins bearing the names of Vonones and Śpalahores (Śpalyris), Vonones and Śpalagadames, Śpalirises, Śpalirises and Azes, and Azes (I) alone.[4] Had Rapson's sequence of rulers (viz.

[1] Tarn, *op. cit.* p. 345 and n. 7.

[2] *C.H.I.* I, p. 574.

[3] Cunningham, *Coins of the Indo-Scythians, Śakas and Kushāns*, Pl. IV, nos. 1–4, 9, 11, 12; Pl. V, nos. 4 and 4*a*; *B.M. Cat.* Pl. XXI, nos. 7, 8, 10; Pl. XXII, nos. 1 and 3; Pl. XVII, nos. 9 and 10.

[4] Rapson himself attributes these coins to Azes I, not Azes II.

Azes I, Azilises, Vonones, Śpalahores, Śpalagadames, Śpalirises, Azes II) been correct, it is obvious that the same Zeus figure ought to have been found on issues of Azilises, from which it is entirely absent. On the other hand, Tarn's sequence of rulers (Vonones, Śpalahores, Śpalagadames, Śpalirises, Azes I, Azilises, Azes II) accords perfectly with this numismatic evidence, if, as may be presumed, the engraver responsible for these figures died some time in the reign of Azes I.

The copper issues of the Arachosian rulers tell the same tale. With two exceptions, noticed in the footnote,[1] they fall into two groups: those of Vonones with Śpalahores and Śpalagadames in one; those of Śpalahores with Śpalagadames, Azes, and Azilises in another. The former exhibit the type: obverse, Heracles to front crowning himself with right hand and holding club and lion skin in left reverse, Athene standing to left with shield and spear.[2] The figures of Heracles and Athene on these coins are comparatively well drawn, noticeably better than the Zeus figures on the silver issues. The other group shows a quite different type, viz. obverse, king on horseback in beaded square; reverse, naked Heracles, seated on rock, diademed and supporting club on knee.[3] In all the coins of this class the execution is very poor, the seated figure of Heracles, which was copied from an excellent prototype on coins of Euthydemus I, being in every case particularly sketchy and weak, and the Kharoshṭhī lettering marred by the same clumsy handling as on the silver pieces. Each of these groups forms an entity in itself and the question presents itself, which of the two is the earlier. If, as Rapson contended, Azes I and Azilises preceded Śpalahores and Śpalagadames, we should have the curious anomaly of Azes I and Azilises introducing the inferior type of the seated Heracles, of Vonones with Śpalahores and Śpalagadames replacing it by the much superior type of the standing Heracles and Athena, and of Śpalahores and Śpalagadames reverting to the inferior type again—a quite inexplicable proceeding. On the other hand, if Tarn is right in holding that Azes I and Azilises come after the others, then the sequence is perfectly logical: Vonones with Śpalahores and Śpalagadames use one type; Śpalahores with Śpalagadames (whom we should in any case expect to succeed them) introduce another, and this second type is then carried on by Azes and Azilises.

In my view, therefore, there can be no question that the sequence of these kings postulated by Tarn is the right one. But that does not mean that Tarn's dating and other inferences are necessarily correct.

Testimony of *Kālakāchārya-kathānaka* regarding date of Maues' death

First, as to the date of Maues' death. Tarn seeks to show that the commonly accepted date (58 B.C.) for that event is definitely established by the testimony of the Jaina *Kālakāchāryakathānaka*. He assumes that the only person who could have been responsible for the conquest of Ujjayinī in 62–61 B.C. was Maues, and

[1] For the two exceptions—one of Śpalirises, the other of Śpalirises with Azes—cf. Cunningham, *op. cit.* Pl. IV, nos. 10 and 13; *B.M. Cat.* Pl. XXII, nos. 2 and 4.

[2] Cunningham, *op. cit.* Pl. IV, nos. 3 and 6; *B.M. Cat.* Pl. XXI, nos. 9 and 11.

[3] Cunningham, *op. cit.* Pl. IV, no. 7; Pl. VI, no. 6; Pl. VIII, nos. 3 and 3*a*; *B.M. Cat.* Pl. XXI, nos. 11 and 12.

he concludes that the reconquest of that city by Vikramāditya four years later followed on the death of that monarch. This assumption appears to me quite gratuitous, and in direct opposition to the Jaina account in the *Kālakāchāryaka-thānaka*, which states specifically that Ujjain was attacked and overcome by certain feudatory *Shāhis* of the Śaka king (Maues), who were in disgrace with their overlord (Maues) and acting presumably in defiance of him.[1] After making Gardabhilla, king of Ujjayinī, prisoner these *Shāhis* proceeded to elect one of their own number as *rāyādhirāya*, that is, supreme overlord, not, be it noted, as *kshatrapa* or *mahākshatrapa*, which they would have done, if they had recognised Maues as their suzerain. If we accept the Jaina story at all—and there seem to be no adequate grounds for rejecting it—then we cannot surely ignore these essential parts of it.

With this point, however, disposed of, the case for putting Maues' death about 58 B.C. falls to the ground. For, granted that Azes did not come to the throne until some years later, then Maues' death may have taken place any time prior to the assumption by Vonones of the imperial title, which happened probably in 53 B.C. To what extent Vonones was able to make good his claim to that title is problematical. His attempt to assert it in the Paropamisadae evidently led to disorders which ended soon after in the death of his legate Śpalagadames and the establishment of the Greek claimant Hermaeus on the throne of Alexandria-Kāpiśī.[2] On the other hand, so far as Taxila is concerned, I see no reason to doubt that for a short time at least Vonones was recognised as the ruling sovereign, with Śpalahores and Śpalagadames, whose coins are found in the early Śaka levels in Sirkap, acting as his legates. The time, however, could only have been a short one; for, as we have seen, both Śpalahores and Śpalagadames were probably dead by *c.* 49 B.C., and it could hardly have been more than a year or two before their successor, Śpalirises, was issuing coins in the joint names of himself and Azes I as 'great kings', thereby announcing the fact that Vonones' overlordship was at an end.[3] A little later, presumably after Vonones' death, he was to proclaim himself 'great king of kings'. I put the assertion of his independence round about 45 B.C. and the assumption of the imperial title not later than 40 B.C.

Vonones, Śpalahores, Śpalagadames and Śpalirises

And this brings me to another point in Tarn's clever reconstruction of this chapter. Among the few coins of Śpalirises is a square copper one showing the 'Zeus enthroned' type of Kāpiśī.[4] Tarn holds that this coin could not have been struck until after the death of Hermaeus (*c.* 30 B.C.) and he infers, therefore, that Śpalirises was responsible for the death of Hermaeus and the final overthrow of Greek power in the Paropamisadae. His conclusions are not without difficulties.

Śpalirises and the Paropamisadae

[1] See p. 44 n. 5.

[2] That gives Amyntas, predecessor of Hermaeus, a reign of five years (*c.* 54–49 B.C.)—quite long enough for his very limited coinage.

[3] This was the first occasion on which a ruler of Arachosia had taken the title of king, let alone of 'great king', and there can be no question of its significance in regard to Vonones. Tarn has stated (p. 346) that Śpalagadames called himself 'king' on his coins, but that is not so. He is merely 'son of Śpalahores'.

[4] Cunningham, *op. cit.* Pl. IV, no. 10.

They imply that Śpalirises, whose coins are not common even in Arachosia, and are not found at all at Taxila, was reigning, nevertheless, longer than Hermaeus himself; and they imply also that Azes I could not have become 'great king of kings' until some time after Hermaeus' death. As already indicated, it seems more likely that Śpalirises took the imperial title immediately after Vonones' death (*c*. 40 B.C. or even earlier), and that he commemorated the fact by issuing the coin bearing the 'Zeus enthroned' type. This would merely be a way of publishing his claim to the overlordship of Kāpiśi as well as the rest of the Śaka realm, though there is nothing to show that he was ever in a position to make good that claim.[1] In this connexion it is significant that the coin itself—a single bronze one—appears to have been struck in the Arachosian mint, not at Kāpiśī itself. Had Śpalirises really overcome Hermaeus and put an end to the Greek kingdom in the Paropamisadae, it is surely strange that he should have made no use of the excellent mint at Kāpiśī.

Length of his reign

As to Taxila and the Western Panjāb, not a single coin of Śpalirises, struck either in his own name or in conjunction with Vonones or Azes, has been found there after more than twenty years' digging, and it may safely be concluded, therefore, that he played no part in its history. In the scheme of dates suggested above I have allowed him a reign of about nine years, including the three periods when he was successively legate and ἀδελφός of Vonones, 'great king' in conjunction with Azes I, and 'great king of kings'. Not improbably—if we may judge from the paucity of his coins—his reign was still shorter. In any case, his death must have followed soon after he became emperor.

Azes I and his conquests

After Maues the next outstanding figure among the Śakas was Azes I. It is to this king that we must attribute the conquest of the Eastern Panjāb from the Greeks of Śākala, and perhaps also the reconquest of the Paropamisadae. As to the latter, however, there is some doubt. The type 'Zeus Nikephoros with sceptre, standing to left', which he introduced and which was used only by himself and his successor Azilises, may conceivably be a substitute for the 'Zeus Nikephoros enthroned', in which case it would point to the annexation of Kāpiśī by Azes. In addition to this type, Azilises also uses the 'Zeus Nikephoros enthroned',[2] and so far as he is concerned, therefore, it would seem that he counted the Paropamisadae as part of his dominions. But it is not unlikely that it was Azes I rather than Azilises who actually annexed that country after the downfall of Hermaeus.

Whatever may be the truth about the Paropamisadae, there can be no question about his sovereignty over Gandhāra and the Eastern Panjāb, since several among his coins bear types which are obviously borrowed from those of the former Yavana princes in these territories, notably the 'Goddess and Indian bull' type characteristic of the city of Pushkalāvatī,[3] and the 'Athene Alkis' type peculiarly

[1] His claim to the imperial title would thus be on a par with the boastful claim made by many an Indian ruler to be a *cakravartin* (universal monarch).

[2] Cunningham, *op. cit.* Pl. VII, no. 9.

[3] *Ibid.* Pl. VI, no. 13; *B.M. Cat.* Pl. XIX, no. 5.

associated with the house of Euthydemus at Śākala.[1] If further evidence be required of Azes' conquests east of the Jhelum, it is to be found in various examples of his coin types which were restruck on coins of Apollodotus II and Hippostratus issued in that area,[2] and also in the presence on his coins of the same moneyers' monograms as had been used by Hippostratus.[3]

Era of Azes

That the era of 58 B.C., now commonly known as the Vikrama era, was designated in two inscriptions at Taxila as the 'era of Azes' has already been noticed, but it still remains to be explained how, if Azes I was not associated as 'great king' with his father Śpalirises until about 45 B.C., it nevertheless came about that he gave his name to an era which started in 58 B.C. The most likely explanation, as it seems to me, is that Azes' conquest of the Eastern Panjāb brought him into contact with Mathurā and parts of India where the Vikrama era was already in use, and that he found it convenient to introduce that era generally throughout his dominions, where it would naturally come to be known by his name. This would account for his name alone being attached to the era without the addition of his imperial title. In Hindustān the Vikrama era was commonly distinguished from other eras by the word *kriṭa*, whatever precisely that may mean;[4] in the Panjāb and North-West it was distinguished by the simple word *Ayasa*.

Azilises, Azes II and Gondophares

Azes I was followed by Azilises and Azes II, and the last named by the Parthian Gondophares. In the case of the three first, all of whom were Śakas, the succession is determined by the fact that coins bearing the name of Azilises show that he reigned first in association with Azes I, then alone, and subsequently in association with Azes II.[5] In the case of the last two the succession is proved by the fact that the *strategos* Aśpavarma served under both Azes II and Gondophares and was followed during the reign of the latter by his nephew Sasan.[6] Gondophares, as we shall presently see, came to the throne about A.D. 19 and probably conquered the Panjāb some years later. The reigns of Azilises and Azes II, both of which, to judge by their coinage, must have been fairly long, have therefore to be fitted in before, say, A.D. 25 or thereabouts. Of the actual years in which these two kings succeeded to the throne, we can do no more than conjecture that they were round about 10 B.C. and A.D. 5 respectively.

Debasement of currency under Azes II

During the reign of Azes II, the imperial currency, which had hitherto been maintained on a remarkably high level, suffered a sudden and surprising eclipse. Not only was silver replaced by billon or potin, but there was a corresponding deterioration in the design and execution of the coins. The debasement of silver came as a sequel to the introduction of lead and billon currencies in the great south-eastern satrapy by Rājuvula, which had been more or less forced upon him

[1] Cunningham, *op. cit.* Pl. v, nos. 11 and 11*a*; *B.M. Cat.* Pl. xviii, no. 2.

[2] Whitehead, *P.M. Cat.* pp. 122–3, nos. 241 (with footnote), 244 and 246.

[3] Cf. Rapson in *C.H.I.* I, p. 572. The evidence of such monograms, however, must be used with the greatest caution.

[4] On the different explanations of this term put forward by scholars, see Konow in *C.I.I.* II, p. lxxxvi. The earliest recorded date in the *kriṭa* era is 282.

[5] *B.M. Cat.* p. 173; *Lahore Mus. Cat.* p. 132 and note.

[6] Cf. *C.H.I.* I, pp. 577, 580 and 581.

by the expansion of trade with the Andhra empire, where coins made of these base metals had long been in circulation (pp. 773 ff.). But the deterioration in the design and workmanship of the coins must have been due to some other cause—probably to some local catastrophe such as an earthquake or plague, which had wiped out the mint and its skilled engravers.

Rājuvula, satrap in Eastern Panjāb

The great satrap Rājuvula referred to above, whose coins have been found over a wide area between the Indus and Jumna rivers,[1] was a contemporary of Azes I. His original satrapy seems to have been in the Eastern Panjāb, where he struck coins of debased silver, with legends in corrupt Greek and Kharoshṭhī and with the well-known type 'Bust of king and Pallas hurling thunderbolt', which had been distinctive of the coinage of Strato I and his Greek successors. At that period Rājuvula was designated by the title of 'satrap' only. Later on, when he had become 'great satrap', he issued three other classes of coins, viz. (*a*) lead coins struck in Mathurā with the established Mathurā type of 'Lakshmī facing between symbols', and with their legend in Brāhmī;[2] (*b*) lead or lead-coated coins, struck presumably at Taxila, with the type 'Heracles and lion'[3] which had been used by Maues; and (*c*) copper coins with the type 'Mounted king and Zeus Nikephoros' and legend in Kharoshṭhī.[4] Of the 160 coins of this Śaka chief which I found in Sirkap one was of the 'Bust of king and Pallas' type,[5] one—a unique specimen—of the 'Mounted king and Zeus Nikephoros' type, and 158 of the 'Heracles and lion' type. These coins were not found in a single hoard but scattered about here and there among the Sirkap ruins, principally in the second stratum. They leave little room for doubt, therefore, that Rājuvula's satrapy included Taxila, and their evidence on this point is all the stronger because nearly all of them are of lead—a metal which is apt to disintegrate in the soil of Taxila, so that for every coin unearthed there must have been many that have altogether perished.[6]

His satrapy enlarged to include Mathurā and Taxila

From the inscriptions on the Mathurā Lion Capital we know that Rājuvula was intimately connected with the Śaka satraps of Chukhsa, who, as already stated, were the wardens of the north-eastern marches.[7] After the conquest of the Greek kingdom in the eastern Panjāb, in which the satrap of Chukhsa no doubt took a prominent part, Azes I evidently created a new satrapy under Rājuvula to administer the newly won territories and guard the south-eastern frontiers. Later on, this new satrapy seems to have been enlarged by the addition of the Taxila

[1] Allan, *B.M. Cat. of Indian Coins*, p. cxv.
[2] *B.M. Cat.* p. 187, Cl. II.
[3] R.U.C. nos. 176–80.
[4] *Ibid.* no. 182.
[5] *Ibid.* no. 183. The attribution, however, is not altogether certain. The head resembles Nahapāna's rather than Rājuvula's. *B.M. Cat. of Coins of the Andhras*, etc., Pl. IX, nos. 243–50.
[6] The idea of using lead for coins seems to have been borrowed from the Andhras, who were using it in Mālwā at least as early as 60 B.C. In the coinages of the Andhra empire lead was the predominating metal. Cf. Rapson, *B.M. Cat. of Coins of the Andhras*, etc., pp. xcii to clxxxii. Lead had also been used by Strato II, who may be presumed to have had commercial contacts with the Andhras.
[7] For the inscriptions on the Mathurā Lion Capital, cf. *C.I.I.* vol. II, pp. 30 *sqq.* The donations of Ayasia, chief queen of Rājuvula, are stated to have been made in honour of the great satrap (of Chukhsa), Kusūlaka Pātika, and of the satrap Mevaki Miyika.

territories on the north and those of Mathurā on the south; and Rājuvula himself was raised to the dignity of a 'great satrap'. Mathurā had already had a line of Śaka satraps before this time—Śivaghosha, Śivadatta, Hagāmasha and Hagāna—but there is no reason to suppose that they were related to the satraps of the north or that they acknowledged the same overlord.[1] Their isolated position, however, at Mathurā and the growing danger that threatened them from the Andhras, who were already in possession of the Mālwā plateau, may well have induced them to put themselves under the protection of the powerful satrap in the eastern Panjāb and his still more powerful suzerain (Azes I), and we may surmise that this was the immediate reason for giving Rājuvula the title of 'great satrap',[2] the idea being to bring the Mathurā satrapy under his control, without lowering the status of the local satrap. However this may have been, Rājuvula in the south and Pātika (who also became a 'great satrap') in the north henceforth shared between them the defence of the eastern frontiers from Gandhāra to the Jumna basin.

Later satraps of Mathurā and Chukhsa

After Rājuvula, the Mathurā satraps pass out of the history of Taxila. His son Śoḍāsa bore the same title of 'great satrap', but his territories seem to have been limited to the Jumna valley, his coins being exclusively of the Mathurā type and found only in that neighbourhood. In the north Kharahostes, son of Arṭa, who is designated *yuvarāja* on the Mathurā Lion Capital, struck copper coins which suggest that he probably followed Pātika in the Chukhsa satrapy.[3] Then, in the next generation, we have Maṇigula and his son Jihoṇika (Zeionises), who are referred to in the silver *askos* inscription from Sirkap (pp. 61, 156 and ch. 29, no. 2) as well as on the coins of Jihoṇika himself as 'satraps of Chukhsa'. Of them we shall have more to say when we come to the reign of the Parthian Gondophares (pp. 58 ff.).[4]

The Śakas as successors and imitators of the Greeks

Before the beginning of the Christian era, then, the Śakas had overcome, one by one, all the Greek states to the south of the Hindu Kush, including, among others, Arachosia (S.W. Afghānistān), the Paropamisadae (S.E. Afghānistān), the kingdom of Taxila in the Western Panjāb, and the kingdom of Śākala in the Eastern Panjāb. Still further to the east they had also established themselves at Mathurā on the Jumna, which must also have come in for a large share of Greek influence, though there is no evidence that it was ever incorporated in a Greek kingdom. Thus, the Śakas had everywhere stepped into the shoes of the Greeks and, like their Parthian rivals in the west, were ready to take full advantage of Greek political institutions and Greek culture. They kept the Greek provinces and the

[1] These earlier satraps of Mathurā had probably reached Mathurā from Ujjain either after the Śaka conquest of that place in 62 B.C. or after they themselves had been driven from Mālwā four years later by Vikramāditya. The date (*c.* 60 B.C.) when they established themselves at Mathurā would agree with either hypothesis.

[2] The title *mahākshatrapa* seems to have been a personal one, not hereditary. In the Chukhsa satrapy it was conferred on Pātika but not, as far as we know, on Kharahostes, Maṇigula or Zeionises.

[3] Kharahostes used the same 'lion' type as Rājuvula (R.U.C. no. 189). Cf. p. 61 *infra*.

[4] See also 'Coins', pp. 773 ff.

Greek system of administration, even to the extent of employing on occasion the same nomenclature for their officials; they took over the Greek mints; made use of the Greek moneyers and engravers; and issued a similar kind of bilingual coinage with Greek legends on the obverse, Kharoshṭhī on the reverse; they copied the Seleucid calendar introduced by Demetrius, and even retained the Macedonian month names, though they changed the initial year;[1] they followed where the Greeks had led in town planning; they adopted Greek forms in their architecture; and seem to have been inspired mainly by Greek ideas in their minor arts and crafts.

As we have already seen, the Śakas were careful, when rebuilding the Greek city in Sirkap, to preserve the regular 'chess-board' pattern of the original plan; and, although we do not possess at Taxila any specimens of decorative architecture belonging to the Greek period, it is quite evident that those dating from the Śaka period must have been copied from Greek prototypes. Conspicuous among such Śaka buildings are the temple at Jaṇḍiāl[2] with its strikingly Greek plan, Ionic pillars and classical mouldings; the three small stūpas in Blocks E, F and G[3] in Sirkap—the first dating probably from the reign of Azes I, the other two, as shown by the coins in one of them, from the reign of Azes II.

Jaṇḍiāl temple, and other Śaka buildings

In these and many other less well-preserved ruins of this period, we observe that the Śakas at first employed exclusively Greek ornamental features. Thus in the temple at Jaṇḍiāl, which is to be assigned in all probability to the reign of Azes I, the plan varies hardly at all from the orthodox plan of a Greek temple, the pillars are of the Ionic order, though provided with plain shafts, the base mouldings are distinctively Greek, and the methods of construction are similar to those in vogue in Attica. Similarly, the decoration of the small stūpa in Block E consists entirely of acanthus leaves, which though applied in a somewhat clumsy, inelegant manner are nevertheless purely Greek in conception. Later on, the influence of Hindustān, transmitted largely through Mathurā, which had specially close connexions with Taxila, led to a curious mingling of Greek and Indian motifs. This is particularly noticeable in the decoration of the 'stūpa of the double-headed eagle' in Block F, where the interspaces between the Corinthian pilasters are relieved by niches of three varieties, the two nearest the steps resembling the pedimental fronts of Greek buildings, those in the centre being surmounted by Indian ogee arches like the familiar 'Bengal' roofs, and those at the corners taking the form of early Indian *toraṇas*, of which many examples may be seen among the sculptures of Mathurā.[4]

Śaka coinage and other minor antiquities

The coins and other minor antiquities of the Śakas tell the same tale of creeping Indianisation. The coinage of Maues, the first of the Śaka kings, is little inferior to that of the Greeks who immediately preceded him; that of the last king, Azes II,

[1] Cf. Tarn, *op. cit.* pp. 242–3, 323 and 359. In Indian literature the Śakas are frequently mentioned along with the Yavanas, and were evidently regarded as not far removed from them culturally.

[2] For the date of this temple, which is still debatable, see p. 225 *infra*.

[3] See pp. 157–69.

[4] Cf. p. 163 *infra*.

though it still perpetuates the old Greek types, has lost most of their former grace and spirit; its designs have become mere lifeless repetitions.[1] It is the same with such ornamental objects of everyday use as the toilet-trays described in the chapter on 'Stone Objects' (25), nos. 62–97. The Śaka craftsman uses the same kind of stones as the Greek before him and, despite his clumsy execution, he tries to keep as closely as he can to the Yavana models (e.g. in no. 63), but later on we see him introducing Indian motifs—particularly the lotus—more and more into the background of his design (e.g. nos. 78, 79, 82 and 84).

Contamination of Greek and Indian art

The misfortune of the Śakas was that they possessed little artistic ability of their own. The best that they could do was to make use of such local talent as they found in the conquered territories without contributing anything of value to its development. At Taxila, Indian art, which had blossomed for a while and quite vigorously under the Mauryas, had been almost entirely ousted by the Greek, and when the Śakas came on the scene, Greek art itself was already in a moribund state, nor was there any prospect of its being resuscitated so long as India was cut off from the west by the hostile Parthian empire.[2] The only direction from which new inspiration could now come was from Mathurā on the Jumna, where Indian art had long had one of its chief strongholds. But after the Śaka occupation of Mathurā in the middle of the first century B.C., the local school of Indian art was itself being rapidly contaminated and devitalised by the influx of foreign ideas from the North-West, and what it actually gave back to Taxila was very far from being the best that India had to offer in the first century B.C.—very poor, for example, in comparison with what the Mālwā School was then producing at Sāñchī.[3]

Religion of the Śakas

Monuments and inscriptions alike leave no doubt that the prevailing religion at Taxila was Buddhism and that the Śaka rulers themselves patronised that religion from a very early date. This need not, however, imply that they thereby abjured Zoroastrianism or whatever other faiths they may previously have professed. On the contrary, the imposing proportions and commanding position of the temple of Jaṇḍiāl[4] outside the northern gateway of Sirkap, lead one to conclude that Zoroastrianism must have been held in specially high regard by the governing classes at Taxila, who at the time of the temple's erection (latter part of the first century B.C.) were in all probability the Śakas, not the Parthians. The truth seems to be that, while clinging to their own Iranian faiths, the Śakas showed a tolerant and

[1] For coins of Maues, see Cunningham, *op. cit.* Pls. II and III; *B.M. Cat.* Pl. XXVI. For coins of Azes II, see Cunningham, *ibid.* Pl. IX, nos. 4 and 5; *B.M. Cat.* Pl. XVIII, no. 8; Pl. XX, nos. 1 and 2.

[2] Although the Śakas gained control of the sea-ports, including Barygaza, which gave them access to the Western World, it is improbable that their maritime commerce had any appreciable influence on their art.

[3] The magnificent reliefs on the *toranas* of the Great Stūpa at Sāñchī date from the second half of the first century B.C. Cf. Marshall and Foucher, *The Monuments of Sāñchī, passim.*

[4] Assuming, that is, that my views regarding the date and religious character of this temple (pp. 225–6 *infra*) are correct. There is also a possibility that the temple was erected under the Parthian Emperor Vonones (*c.* 54–45 B.C.).

sympathetic attitude towards every religion—whether Buddhism, Jainism, Brāhmanism or what not—which they found among the conquered people, but as a matter, probably, of political expediency they made a point of patronising and encouraging Buddhism in particular, because it was already professed by the bulk of the people in the Panjāb and North-West and because it approached most nearly to their own ideals. It is thus that in the year 77 B.C. or thereabouts—probably little more than a decade after the conquest of Taxila—we find Pātika, son of Liaka Kusūlaka, the Śaka satrap of Chukhsa near Taxila, making a gift to a Buddhist *saṅghārāma* and dedicating a relic of Śākyamuni.[1] And a generation later, in the reign of Azes I, when Pātika himself had risen to be a 'great satrap', we find him and his son figuring among the potentates and others in whose honour a relic of the Blessed One was dedicated at Mathurā by Rājuvula's queen, Ayasia Kamuïa, and a gift of land made by his son Śoḍāsa.[2] More visible evidence of the powerful impetus given to Buddhism under the rule of the Śakas is provided at Taxila by the great numbers of religious edifices, large and small, which were erected at this time not only in the city of Sirkap and at the Dharmarājikā *saṅghārāma*, but in the open country to the north and north-east of the city and in the valley to the south of it. Among these monuments may be noticed, in particular, the two stūpas (A and B) and monastery to the north of the Jaṇḍiāl temple;[3] the stūpa at Bajrān to the east of the same temple, which contained an inscribed gold plate dedicated by the lady Sira;[4] the stūpas in Blocks E, F, G, C′ and E′ in the city of Sirkap;[5] the ring of thirteen small stūpas[6] round about the great Dharmarājikā, one of which (S8) contained coins of the Śaka kings Maues and Azes in its relic-chamber; stūpa no. 13 near the village of Shāhpur, which was erected by the two brothers Sihila and Siharakshita; and the neighbouring stūpa, no. 14, erected by a meridarch of Taxila whose name is lost.[7]

Śakas succeeded by Parthians: King Gondophares

With the transfer of the sovereignty at Taxila from the Śakas to the Parthians, its history becomes a little less obscure. As already noticed, Gondophares, the greatest of the Parthian monarchs who followed Azes II, came to the throne in A.D. 19 and was still reigning in A.D. 45. These dates are established by an inscription at Takht-i-Bāhī which was written in the twenty-sixth year of his reign and in the year 103 of an era which, though not named, must evidently be the Vikrama-Azes era of 58 B.C.[8] This, however, does not imply that Gondophares

[1] The record is inscribed on the well-known 'Pātika' copper-plate of Taxila, the findspot of which appears to have been to the north-east of Sirkap. Cunningham suggested that the name Chukhsa had survived in Sirsukh, but Sir Aurel Stein, with greater probability, identified Chukhsa with the modern Chach, an alluvial plain lying between 33° 53′ and 33° 59′ N. and 72° 22′ and 72° 44′ E., not far from Taxila. Cf. *C.I.I.* II, pp. 23–9; Cunningham, *C.S.R.* II, p. 134; V, pp. 67 *sqq.*; *Ind. Ant.* XXV, 1896, pp. 174 *sq.* Coins of Liaka Kusūlaka imitate those of Eucratides, *C.H.I.* I, Pl. VIII, nos. 41 and 42.

[2] *C.I.I.* II, pp. 30–49.

[3] Cf. ch. 17, pp. 355–7 ff.

[4] P. 6 n. 8 *supra*.

[5] Pp. 158, 163, 167, 183 and 191 *infra*.

[6] Viz. R 4, S 8, S 9, B 6, B 3, B 7, B 16, B 20, D 13, D 10, D 1, D 2, D 3.

[7] P. 7 *supra*. The stūpas no longer exist.

[8] For the Takht-i-Bāhī inscription, cf. *C.I.I.* II, pp. 57–62.

succeeded Azes II at Taxila in the year A.D. 19. Early in his career Gondophares had been associated, perhaps as a sub-king in Arachosia,[1] with Orthagnes, the Suren of Sīstān. Later on he became a more or less independent prince in the Suren's dominions. Still later he succeeded Azes II as supreme 'king of kings'.[2] There are thus three possible dates from which the initial year of his reign might conceivably have been reckoned, viz. when he became associated with Orthagnes as a sub-king, when he became a virtually independent prince, and when he assumed the imperial title. If it was reckoned, as presumably it would be, from the first of these dates, then the conquest of Taxila and overthrow of Azes II must be put some years after A.D. 19—possibly not much before A.D. 25.

Coinage of Gondophares

While associated with Orthagnes, Gondophares had no coinage of his own: only his name and possibly that of his brother Guda or Gada appear on the reverse of the Suren's coins, which exhibit a bust of the latter on the obverse and a Nike holding wreath and palm on the reverse.[3] A similar type, also in copper, was afterwards issued by Gondophares himself when he became king in the same region, but with this difference in the legend—that, whereas Orthagnes described himself as 'great king of kings', Gondophares described himself as simply 'king and saviour'.[4] The explanation of this significant change may be that, after the death of Orthagnes, the kingdom of the Suren was split up and Gondophares inherited only a part of it; or it may be that Gondophares was constrained by the Parthian emperor to forgo the imperial title. Other copper issues of Gondophares which seem to have been imitated from Parthian prototypes and probably intended for currency in Sīstān are noticed below.[5]

In his 'silver' currency Gondophares followed the example of his predecessor, Azes II, in issuing coins of base metal, now known as billon; at the same time he copied the familiar Śaka type of 'King on horseback with the standing figure of Zeus or Athene on the reverse',[6] his only notable innovation on these billon coins

[1] This has been inferred on the ground that the Kharoshṭhī used in the obverse legend was understood in Arachosia but not in Sīstān. But the coins in question were struck for use in all parts of the Suren's dominions and Gondophares might have been a governor or sub-king in any part of them.

[2] For the identity of Gondophares with Gadaspar or Kaspar, one of the three Magi of early Christian legend, and for his connexion with the half-legendary Rustam, see E. Herzfeld, *Iran in the Ancient East*, pp. 291–2. Herzfeld regards Gondophares and other members of the Suren clan as rivals of the Atropatene dynasty of Parthia. Rostovtzeff, on the other hand, thinks that Gondophares must have been supported by Artabanus III, at any rate at first. *C.A.H.* XI, p. 112 n. 1.

[3] *B.M. Cat.* p. 109 and Pl. XXIII, no. 9. Though the style is more in the Graeco-Śaka tradition, the type was perhaps imitated from the silver pieces of Vonones I of Parthia. *B.M. Cat.*, *Parthia*, Pl. XXIV, no. 6.

[4] R.U.C. nos. 192–4; *B.M. Cat.* p. 105 and Pl. XXII, no. 11.

[5] (*a*) A very rare coin, showing king seated left on high-backed throne, with Nike on reverse holding wreath and palm. *B.M. Cat.* Pl. XXII, no. 10; and for Parthian prototypes, *B.M. Cat.*, *Parthia*, Pl. XV, nos. 1 and 2; Pl. XVIII, no. 17; Pl. XXIV, no. 6, etc. (*b*) Obverse, king l. on horseback receiving wreath from Nike who stands in front; reverse, symbol of Gondophares, ☿; *B.M. Cat.* Pl. XXII, 12. For obverse type, cf. *B.M. Cat.*, *Parthia*, Pl. XXV, nos. 5 and 6; Pl. XXX, nos. 3 and 10. The Gondophares symbol was perhaps a variant of the symbol on coins of Phraates IV and Volagases I. *Ibid.* p. lxxiii and Pl. XXIII, no. 5; Pl. XXIX, no. 13.

[6] *B.M. Cat* Pl. XXII, nos. 5, 6 and 13.

being the substitution of a standing Śiva with trident[1] for the more usual Zeus. From the distinctive style of their engraving, as well as from their fabric, it is clear that these billon coins were struck in the same mint as the preceding ones of Azes II and of Azes II with Aśpavarma; and it seems virtually certain that that mint was at Taxila.

Extent of his empire

At its fullest extent the empire of Gondophares comprised Sīstān, Sind (probably with Cutch and Kāthiāwār), the Southern and Western Panjāb, the North-West Frontier Province (with much of what is now tribal territory), and Southern Afghānistān.[2] There is evidence also that he conquered and annexed part of the Parthian dominions to the west of Sīstān.[3] Within this empire were included various subordinate kingdoms, whose rulers, though nominal feudatories of the Suren, were virtually independent.[4] Two of these rulers, whose names appear to be Satavastra and Sapedanes (there is some doubt about the reading of the latter), have become known to us for the first time from coins found in Sirkap. Their kingdoms seem to have been in the south-west of the empire, possibly in the lower Indus region or Surāshtra, and their date to have fallen in the third quarter of the first century A.D. In both cases the coins are of silver, with the bust of king and corrupt Greek legend on the obverse and Nike holding wreath and palm on the reverse; in both, too, the Gondophares symbol is figured beside the bust; but, while Satavastra takes the title of 'great king', Sapedanes takes the higher one of 'king of kings'.[5] Rapson took the heads on both series of coins to be portraits of Gondophares,[6] and if he was correct, there is, of course, no doubt that the two were contemporaries and feudatories of that emperor. But the resemblance of the heads to one another or to the known portraits of Gondophares is far from evident, and I think we must regard them rather as portraits of the two princes themselves and take the Gondophares symbol only as evidence of their connexion with the Suren—which means that they may or may not have struck these coins during the lifetime of Gondophares. Of Satavastra we know nothing more than can be gleaned from these coins. Sapedanes may possibly be the prince whom the *Periplus* calls Sandanes and who from the indications given in that work appears to have had his dominions in the region of Barygaza and Surāshṭra.[7]

Satavastra and Sapedanes

[1] *B.M. Cat.* Pl. XXII, nos. 8 and 9.

[2] That is, the ancient Śakasthāna, Śakadvīpa, Kaccha, Surāshtra, Arachosia, the Paropamisadae, Gandhāra, and the plains of the Panjāb at least as far east as the Rāvī.

[3] This is indicated by the fact that he issued a silver coinage of the Arsacid type (*B.M. Cat.* Pl. XXXII, no. 10) and that his particular symbol is found counter-marked on coins of the Parthian Orodes I and Artabanus III (Rapson in *J.R.A.S.* (1904), p. 677).

[4] The Indo-Parthian kingdom of the Suren seems to have had the same feudal structure as the Parthian empire proper, including a number of vassal or nominally vassal states.

[5] R.U.C. nos. 211–21; *A.S.R.* (1912–13), pp. 44, 50 and 51; and Pl. XL, nos. 35 and 41.

[6] *C.H.I.* I, p. 580.

[7] Cf. Schoff, *The Periplus of the Erythræan Sea*, para. 52 and pp. 197–200. Sandanes, whose name may easily have been corrupted from Sapedanes, is said to have extended his kingdom southward from Barygaza to the port of Calliena, near Bombay. He must, therefore, have been a powerful prince, as Sapedanes evidently was; otherwise he could not have been in possession of Barygaza or in a position to challenge the power of the Andhras. If, as is now generally believed, the *Periplus* was written about A.D. 60, the date of Sandanes would tally with that of Sapedanes.

Abdagases

A third prince who was more closely connected with Gondophares was Abdagases, who is described on his early coins as nephew[1] of the emperor and ruling (βασιλεύων) on his behalf, and since these coins are in all respects of metal, types and style similar to the billon coins of Gondophares[2] issued, as I believe, from the Taxila mint, we may infer that Abdagases was at that time viceroy or sub-king, if not at Taxila itself, somewhere in the eastern parts of the empire. Later he was to follow Gondophares as Suren in Sīstān, where he issued a copper coinage similar to that of his predecessor.[3]

Zeionises

Not far from Taxila there was also the feudatory satrap Zeionises, son of the satrap Maṇigula. In the inscription on the silver *askos* vase described on p. 156, no. 17, Zeionises is referred to as satrap of Chukhsa, i.e. of the same satrapy of which Liaka Kusūlaka had been governor in the reign of Maues and where he also had struck coins of his own. The position of this satrapy on both banks of the Indus has already been discussed.[4] Zeionises' coin type, 'elephant and bull', associates him with both Taxila and Pushkalāvatī, the capital of Gandhāra, and it has been thought that his connexion with the latter city may be signified by the motif on his silver didrachms on which he is portrayed in the act of being crowned by a city Tyche wearing a mural crown.[5] The lion which figures on other coins of his had been used by the earlier satraps, Rājuvula and Kharahostes, the former at Taxila, the latter in the Chukhsa satrapy.

Although there is nothing on the coins of Zeionises to show that he was a feudatory of Gondophares, the date supplied by the silver *askos* inscription mentioned above suggests that the two were contemporary. That date is given in the reign of Zeionises and in the year 191[6] of an era which can hardly be other than the old Śaka era of *c.* 155 B.C., since the vase itself was buried shortly before the Kushān invasion of *c.* A.D. 64 and the signs of wear on the silver indicate that it must have been in use for a number of years previously. If Konow's restoration of this inscription[7] is to be relied on, Zeionises' father Maṇigula was designated 'brother' of the emperor, but here again we must remember that the title would be only an honorific one and that it does not mean that Zeionises and his father were Parthians. On the contrary, the name Maṇigula points definitely to a non-Parthian origin and it is reasonable to assume that he was a descendant

[1] Viz. 'Son of the brother of Gondophares'. Since the designation 'brother of the king' was used, as we have seen (p. 49 and note), as an honorific title, we cannot be sure that Abdagases was actually a nephew of the emperor.

[2] The types of Abdagases are 'King on horseback' with Zeus or Zeus Nikephoros standing. *B.M. Cat.* pp. 107–8 and Pl. XXIII, nos. 2 and 3; *P.M. Cat.* pp. 153–4 and Pl. XV, nos. 61 and 64. Their metal is billon.

[3] *B.M. Cat.* p. 107, nos. 1–4 and Pl. XXIII, no. 1; *P.M. Cat.* pp. 154–5, nos. 66–71 and Pl. XV, no. 70.

[4] *Vide supra*, p. 48 and *C.H.I.* I, p. 591 and Pl. VIII, no. 42.

[5] Tarn, *op. cit.* p. 353 n. 2, where he goes so far as to say that the city is certainly Pushkalāvatī, since Taxila was not a polis. On the other hand, we must not forget that the motif was a familiar Parthian one, which Zeionises may have adopted in deference to his Parthian overlord and without any special local significance.

[6] I have accepted Konow's reading of this inscription, but I confess that I am not altogether convinced about the date.

[7] *C.I.I.* II, pp. 81–2 and Pl. XVI.

of the former Śaka satraps of Chukhsa, Liaka Kusūlaka and Pātika, and that his son was allowed by Gondophares not only to retain his hereditary satrapy but to exercise again the privilege, which his ancestors Liaka and Kharahostes had enjoyed, of striking his own coins.[1]

Aśpavarma and Sasan

Finally, among the powerful chiefs who occupied important positions under Gondophares were the *strategos* Aśpavarma and his 'nephew' Sasan,[2] the former of whom had served under Azes II, while the latter was to serve, though not as *strategos*, under Gondophares' successor, Pacores. Notwithstanding that the title *strategos* was used under the Seleucids as the equivalent of satrap, there are no grounds for supposing that it had the same connotation in India, where the satraps were called satraps. As a fact Aśpavarma is the only official known to us, whether among Greeks, Śakas or Parthians, who bore the title of *strategos*, and one naturally infers that he was Commander-in-Chief of the Imperial forces. Rapson takes the title to be the equivalent of the Indian *senāpati* ('army-lord') and notes that Aśpavarma was a representative of the powerful families of military chiefs who played a prominent part in the history of Western India under the Śaka satraps, and who Hinduised their names by giving them the terminations *-varman* and *-datta*.[3] The Śakas, however, are more likely to have followed Iranian than Indian precedents, and perhaps, therefore, we should look for the origin of the title to the old Achaemenid empire, where the head of the imperial army held a very exalted and responsible position, immediately under the Great King, and was thus vested with a considerable measure of control over the local satraps.

Story of St Thomas

To revert, however, to Gondophares the emperor. Long before any coins or inscriptions of his had been discovered, his name was known to the Western World in connexion with the Mission of St Thomas to India. The story, as told in the *Apocryphal Acts of the Apostles*, which goes back to the third century A.D., is that when, after our Lord's death, it fell to the lot of St Thomas to go and preach the gospel to the Indians, he was unwilling to obey. Our Lord then appeared to him in person and, claiming him as his servant, sold him to a certain merchant named Habbān, who had been commissioned by King Gondophares to procure for him a capable builder from Syria.[4] St Thomas returned with Habbān by sea to India and was ordered by Gondophares to build a palace, but during the absence of the king on a military expedition he spent the money entrusted to him in acts of charity, and on the king's return explained that he had built for him a palace in heaven. Thereupon the irate Gondophares cast both St Thomas and the merchant into prison. While they were in prison Gad, the king's brother, died and, being transported to heaven, was shown the palace which St Thomas by his good works

[1] It should be remarked that Zeionises pursued an independent line in issuing good silver didrachms, instead of debasing his currency like Gondophares.

[2] Here, again, the title 'nephew' does not imply that Sasan was related by blood to Aśpavarma. For further remarks on Sasan, see pp. 776 and n. 1, 777.

[3] *C.H.I.* I, p. 577.

[4] Trade relations at this time between the North-West and Syria are evidenced by the Syrian glassware and other antiquities found at Begrām and Taxila.

had built; then he was restored to life again and both he and Gondophares were converted to Christianity.[1]

Guḍa, Guḍaṇa, Gada

On certain coins struck when Gondophares was a subordinate ruler under the suzerainty of Orthagnes, his name seems to be associated with that of another ruler named Guḍa or Guḍaṇa, and it has been conjectured that the latter may have been the brother Gad or Gada who figures in the Christian legend. The identification is not free from difficulties, but on the whole it seems likely to be correct.[2]

The great earthquake at Taxila and its effects

It was possibly during Gondophares' reign, though it may have been during his predecessor's, that Taxila was visited by a violent earthquake, which furnishes a notable landmark in the city's history. The effects of its devastating force can still be seen among the excavated remains. At the temple of Jaṇḍiāl, for example, the heavy stone plinths of pillars and pilasters were split through and through; at the Dharmarājikā the great central stūpa and the smaller memorials around it were half destroyed; in Sirkap most of the buildings were reduced to ruin and in one case a structural stūpa (Pl. 27, *a*) was lifted bodily from its base and laid on its side. The scare caused among the populace by this catastrophe led to momentous changes in the city's architecture.[3] Up to that time houses and structures of all kinds at Taxila had been built of rough rubble masonry in mud, with a facing of mud, or occasionally lime plaster, to hold the surface together. Even in the most favourable conditions such structures possessed little stability, and if shaken by a serious earthquake were bound to collapse. When, therefore, the people of Taxila set about restoring their city, they resorted to new methods of building. In the first place, they cast round for a more stable kind of masonry and, since the local stone was too flintlike and intractable to be chiselled into squared ashlar, they had recourse to a massive type of 'diaper' which was fashionable on the other side of the Indus and had been proved by experience to be far more durable than ordinary rubble. Secondly, they reduced the height of buildings and took special precautions to make their foundations secure. In the case of some of the large new edifices, such as the apsidal temple in Sirkap, they carried the foundations down as much as 20 ft. to virgin soil. Their dwelling houses they limited to two stories only, the lower one of which was in the nature of a basement or *tahkhāna*, buried to more than half its height underground. It is to this peculiar type of low bungalow that Philostratus appears to refer in his *Life of Apollonius*, when he says that the houses were so designed that, if you look at them from the outside, they

New methods of building

[1] *C.H.I.* I, pp. 578–9; Wright, *Apocryphal Acts of the Apostles*, II, pp. 146 *sqq*. In the several texts of these Apocryphal books the king's name appears variously as Gūdnafar, Gundafor, Gundoforus and Goundaphorus. On his coins it appears, in Kharoshṭhī, as Guduphara or, occasionally, Gadapharna; in Greek, as Undopheros, Undopherros or Gondopherros, which apparently represent local pronunciations of the Persian Vindapharna 'The Winner of Glory' (*C.H.I.* I, p. 577).

[2] Cf. Rapson in *C.H.I.* I, pp. 577–8, and for the difficulties in connexion with Guḍa's name, Whitehead, *P.M. Cat.* p. 155 n. 1. The name Gadasa in Kharoshṭhī occurs on a carnelian gem which I acquired at Charsada (Pushkalāvatī) in 1903.

[3] It may also have been responsible for the destruction of the mint and its engravers and for the subsequent deterioration of the coinage which took place in the reign of Azes II. Cf. pp. 773, 781 f. *infra*.

appear to have only one story, but if you go inside, you find in reality that they have underground rooms as well, the depth of which is equal to the height of the chambers above.[1]

Apollonius of Tyana and Philostratus

And this brings us to another notable event that happened during the reign of Gondophares—the visit to Taxila of Apollonius of Tyana, which is usually dated to the year A.D. 44, but later by some authorities.[2] This is not the place to discuss the credibility of Philostratus' romantic narrative, in which so much that is mythical or magical is mingled with sober fact. All that need be said is that, so far as Taxila is concerned, his observations on the city and its buildings correspond with the facts disclosed by my excavations, and that, whatever the source of his information—and there is no reason to doubt that it was the diary of Apollonius' companion Damis—Apollonius must have visited the city about the middle of the first century A.D.: some years, that is to say, after the great earthquake, but before the resurrected city was overwhelmed by the Kushāns and deserted in favour of Sirsukh. The pity is that Philostratus could not be content with giving his readers an unvarnished account of the contents of Damis' notebooks. Instead of that he has padded out his narrative with stock extracts from older Greek writers on India, mostly belonging to the Alexander cycle, and then proceeded to adorn and distort it still further by casting it into an artificial literary mould of the conventional type favoured in the third century A.D.

Phraotes

Parenthetically it may be observed that, according to Philostratus, the king ruling in Taxila at the time of Apollonius' visit bore the name of Phraotes, not Gondophares, and this has been cited as one of the proofs of the author's untrustworthiness. Herzfeld, however, has ingeniously suggested that 'Phraotes' was a Graecised corruption of the word *apratihata* = 'invincible', which was one of Gondophares' titles and one which was used exclusively by him among all the foreign rulers of the North-West.[3]

Pacores

Gondophares was succeeded about A.D. 50 by Pacores, who to judge by the paucity of his coins could have had but a very short reign. His money is exclusively of the Sīstān pattern, and such authority as he may have exercised in the eastern parts of his empire could have been little more than nominal. We have it on the authority of the *Periplus*[4] that even in Sind the Parthian chiefs were at this time (third quarter of first century A.D.) making war on one another, and it is quite evident that after the death of Gondophares the empire of the Surens began rapidly to disintegrate and thus opened the way for the Kushān conquest which was to follow soon after A.D. 60.

[1] Philostratus, *Vit. Apoll.* II, 66 (ed. Dübner).

[2] *Philostratus in honour of Apollonius of Tyana*, trans. by J. S. Phillimore (Oxford, 1912), vol. I, pp. cv–cxxvi.

[3] Herzfeld, *Śakastan*, p. 113. The title *apratihatacakra* had been used by the satrap Rājuvula in the Eastern Panjāb. *B.M. Cat.* p. 67. It may be noted that Philostratus represents Phraotes as being only 27 years of age at the time of Apollonius' visit, which would mean that he was about twelve years of age when he came to the throne in A.D. 19. On all his coins, however, Gondophares appears as a bearded, middle-aged man.

[4] Schoff, *Periplus*, para. 38.

Three years before that event Taxila was visited by a deadly plague and a certain holy man of the Jainas, Mānadevi Sūri by name, was fetched by the local *saṅgha* all the way from Naḍḍulapura (Nodol) in Rājputāna in order to stem it; but what success he had is not stated. At that time, we are told, the city had 500 Jaina chaityas, besides many more in the country round about.[1] But on the advent of the Kushāns the Jaina *saṅgha* seems to have moved from Taxila.

Taxila visited by plague

The brief period of Parthian supremacy at Taxila is the more interesting because of the prolific harvest of antiquities which the rebuilt Parthian city has yielded to the spade. Many of these antiquities, particularly the gold jewellery and the vessels of silver and bronze, were discovered in treasure hoards which the townspeople had evidently buried in haste beneath the floors of their houses under the menace of the Kushān invasion and which they did not live to recover; others were found scattered amid the debris of the fallen buildings. In the aggregate they constitute the richest and most varied collection of personal ornaments, household utensils, implements and arms that has yet been found in India, and they enable us to get an unusually full picture of the material culture of the Parthian conquerors. The keynote of this culture is its strongly Hellenistic tendency. Philostratus tells us that Apollonius conversed in Greek with the Parthian king of Taxila. Whether true or not, there is nothing at all improbable in the story. Greek was not only the medium for the conduct of business throughout Western Asia, but it was the *lingua franca* of the Western civilised world and all-important in an empire which embraced the greater part of the Seleucid dominions, including a multitude of Greek cities and military colonies. Indeed, Greek speech and Greek culture were at this time hardly less the hall-mark of the educated Parthian than they were of the educated Roman, and we may be sure that Gondophares, who belonged to one of the richest and most powerful houses in the Parthian empire, would receive the best education that the Hellenised Orient could provide. It is true that the Suren's kingdom lay at the eastern verge of the Parthian empire, where even the *koine* speech of Greeks might seldom be heard; but that was not likely to make any difference to the education of the local ruling families, which would naturally follow the same lines as it did in other parts of the empire. And when Gondophares overcame the Śakas and gained possession of what had once been Greek states in India and Afghānistān, his sympathy for Hellenistic culture could hardly have failed to be quickened. We need not, therefore, be surprised at the sudden influx of multifarious articles from the Graeco-Roman world which followed the Parthian conquest of Taxila or at the encouragement given to artists and craftsmen to imitate western models. The opening up through Parthia of the trade routes that connected India with the Mediterranean did much, no doubt, to facilitate the

Material culture of the Parthians in India

[1] Cf. *Hīrasaubhāgya* of Devavimalagaṇi, pp. 163–4; *Prabhāvakacharita* of Prabhāchandra Sūri (ed. Hiranand), pp. 192–5, where we read: 'And a pestilence came from somewhere among the people. When three years had passed that great city (Taxila) was demolished by the Turushkas [*sc.* Kushāns]. Even up to this day there are images of brass and stone in the underground houses, as heard from old people.' For the above and other literary references to Taxila, see *I.S.R.* (1914–15), pp. 36–41.

import of such articles,[1] but the vogue for them and the revival of Hellenism generally came with the Parthian conquerors. It was not so much a case of the supply creating the demand as of the demand creating the supply.

While, however, the bulk of Indo-Parthian imports from the West were of Graeco-Roman manufacture and reached Taxila by way of the great trade-routes from Syria and Egypt, there are a few pieces of gold jewellery and other minor antiquities which show striking affinities with the contemporary art of South Russia and furnish interesting evidence of commercial contact between India and the Black Sea region.[2] The most direct trade-route by which these objects could have reached Taxila was that known as the Northern Route, which rounding the northern shores of the Caspian Sea passed through the country of the Aorsi to Bactra, Kāpiśī and Taxila.[3] But as Bactra had long been in possession of the Yüeh-chi (Kushāns), who were habitually at war with the Parthians, traffic is likely to have been diverted from that route farther to the west, i.e. either to the Merv, Herāt, Farah and Sīstān route, or to a by-pass from Merv down the Murghāb valley to the Paropamisadae. By whatever road they travelled, these Sarmatian ornaments are likely to have found a ready market among the Śaka-Parthian population of Taxila; for not only are their designs and gay colouring very attractive but, in contrast with the flimsy Graeco-Roman jewellery then much in vogue, they are made of heavy and pure gold, and such gold was at a high premium in the North-West of India.

Parthians ousted by the Kushāns

Coins of the Parthian emperor Gondophares have been found in great abundance at Begrām and other sites in the Kābul valley, but none of his successor, Pacores. From this we may infer that Parthian rule in the Paropamisadae came to an end after the death of Gondophares, when, as already indicated, internal dissensions and other causes led to the rapid disintegration of the Parthian empire. This inference is borne out by the Later Han Annals (*Hou Han-shu*), which tell us that Kujūla Kadphises (Kiu-tsiu-k'ioh), the founder of the Kushān dynasty, invaded Parthia (Ansi), seized Kābul (Kao-fu), conquered P'u-ta and Ki-pin and established himself in possession of all these kingdoms. These victories must have been

Kujūla Kadphises

[1] The increased trade at this period between Taxila and the Mediterranean coasts suggests that Gondophares was the friend rather than the enemy of Artabanus III. Cf. *C.A.H.* XI, p. 112, and Herzfeld, *Arch. Mitt. aus. Iran*, IV (1932), pp. 98 *sqq.* Apollonius of Tyana is said by Philostratus to have made the journey from Cilicia to India by land and to have returned by sea.

[2] Cf. ch. 30, p. 616.

[3] The Black Sea traffic may also have followed the Caucasus route through Atropatene to Ecbatana, Susa and Persepolis and so eastward to Sīstān. The Parthians paid great attention to their trade-routes, from which much of their wealth was derived. But overland transport in those days was not capable of dealing with goods in great bulk; hence much of the merchandise consisted of articles of luxury. Among those imported into India at this period may be noted in particular: silks from China; textiles, mainly of linen, from Syria and Egypt; vessels of silver and bronze or copper; gold and silver jewellery; Syrian and Roman glassware; Tyrian purple; red coral from the Mediterranean; amber and gold ornaments from South Russia; and antimony and sulphide of arsenic from Carmania or Eastern Arabia. Among the more important exports from India were: semi-precious stones of many kinds; pearls; ivory; lac; tortoiseshell; Indian cotton and fine muslins; pushmina wool from Kashmir; furs; steel swords; spikenard and costus root; and indigo.

achieved by about A.D. 50, for the last recorded date that we have of Gondophares is A.D. 45, when he was in the twenty-sixth year of his reign, and it may be presumed that his death and the subsequent break-up of his empire, of which the Kushān king would not be slow to take advantage, followed within a few years. What age Kujūla was at that time is not recorded. The Chinese chronicler tells us that he lived to be over 80, but obviously he could not have been very advanced in years when he carried through such an arduous campaign. Assuming, however, that he was already between 50 and 60—he could scarcely have been more—he would have been born round about 5 B.C. and died between A.D. 70 and 80.

V'ima Kadphises the probable conqueror of Taxila

The coins of Kujūla Kadphises have been found in such large numbers in Sirkap (more than 2,500 in all, including 412 of the 'Kadaphes' series) that it would be natural to infer that he added Gandhāra and Taxila to his other conquests. This, indeed, is not impossible, but it seems on the whole more likely that it was not Kujūla himself, but his son V'ima Kadphises who annexed Taxila and the rest of the Panjāb, if not Gandhāra. This would accord with the testimony of the *Hou Han-shu*, which after mentioning Kujūla's conquest of P'u-ta and Ki-pin goes on to say that he lived to be over 80 years old and was succeeded by his son V'ima (Yen-kao-chen), who in his turn conquered India and there set up an army leader as Governor.[1] It need not, of course, be concluded that V'ima's conquest of India was achieved entirely after his father's death. The subjugation and settlement of Kujūla's new territories west of the Indus could hardly have been completed much before A.D. 60, and as Kujūla himself was then probably over 60 years of age, nothing would have been more likely than that he should retire from active campaigning and leave it to his son to follow up his conquests in the lands beyond the Indus. We may suppose, therefore, that V'ima Kadphises attacked and overthrew the Parthians in Taxila soon after A.D. 60, and that, after establishing himself there, he very naturally made use of Kujūla's coinage, which would be all the more convenient because his own supply of copper had in any case to come from Southern Afghānistān.[2] There are also some grounds for inferring that he supplemented his father's currency by striking coins of his own in the local mint at Pushkalāvatī (Chārsada). These coins, of which twenty-three specimens were found in Sirkap, are distinguished by the figure of the humped bull of Śiva on the obverse and of a Bactrian camel on the reverse, with the legend *Maharayasa rayatirayasa Kujula Karakaphasa sacadhramaṭhitasa*.[3] The reason for associating them with V'ima

Identity of Kujūla Kara Kaphsa

[1] What countries precisely are meant by P'u-ta and Ki-pin is not certain. The latter term was used by Chinese writers in a varying sense at different periods, but although in this passage it may have included Gandhāra, there is no reason to suppose that it was meant to include any districts east of the Indus. P'u-ta (Puk-d'āt) is equated by Francke and Marquart with the Greek Πακτυική and located in North Arachosia. (See Konow, *C.I.I.* II, pp. lxii *sq.*)

[2] Ancient copper workings exist near the Safed Kūh between Kābul and Kurram, at Tezin east of Kābul and at various other places in South Afghānistān.

[3] The adoption of these high-sounding titles, to which others were added, would be necessary perhaps even for the crown-prince in India, where some of the conquered chiefs styled themselves 'great king' or 'king of kings'.

rather than with Kujūla Kadphises is that the word *kara* has been interpreted as the equivalent of *kala*, which was used at a somewhat later date in Turkestān with the meaning 'prince', and if this interpretation is correct, it would seem that the coins were issued by V'ima Kadphises as crown-prince during his father's lifetime. In that case the coin figured in R.U.C. no. 226, which bears the legend *Kujula kara dhramathidasa*, may also have been issued by the crown-prince V'ima.

Unique silver coins probably of Kujula Kadphises

Another coin as to the authorship of which there is some doubt is a small silver piece of which four unique specimens were found in Sirkap (R.U.C. nos. 258–60). It shows the bust of a Kushān king with characteristic head-dress on the obverse, and Nike holding wreath and palm on the reverse, with the legend: *maharajasa rajatirajasa Kushaṇasa ya(vugasa?)*. The bust may represent either Kujūla or V'ima Kadphises, but seems more likely to represent the former than the latter (pp. 785–6). In either case this silver coinage must have been struck soon after the conquest of the Lower Indus country, in order to replace the silver coinage of the conquered Parthian chiefs, which it closely resembles. Apart from these coins and another small silver piece of V'ima Kadphises in the British Museum, which has been thought to be in the nature merely of a proof-piece,[1] the Kushāns coined only in gold and copper. The adoption of a gold in place of a silver currency has been attributed to the fact that the Kushāns were fortunate in having access to supplies of the more precious metal which had been denied to their Śaka and Parthian predecessors, but this explanation ignores the lavish use which the Parthians made of gold for their personal ornaments, as well as the fact that the Kushāns had complete command of the rich silver mines in Southern Afghānistān. The chief reason, in all probability, was the extreme debasement of the silver currency which had taken place under Azes II and his Parthian successors, and which had made it impossible to continue to use a silver standard, if the country was to be saved from financial chaos and credit re-established.[2] But a further reason, no doubt, was the obvious demand of a gold currency demonstrated by the widespread influx of Roman aurei into the marts of India and Western Asia. It was in order to compete with the Roman traders that Kadphises II struck his new gold coinage on the same standard as the aurei.

Reasons for adopting gold currency

Paucity of coins of Kadphises II and Soter Megas in Sirkap

Of the new gold coinage no specimens have been found in Sirkap; and of the copper coinage with the type 'King standing at altar and Śiva with bull' not more than thirteen specimens. This no doubt is attributable to the fact that soon after the conquest of Taxila V'ima Kadphises built the new city in Sirsukh, to which a large part of the population would naturally be transferred. For the same reason coins of Soter Megas, who may well have been the viceroy appointed, according to the *Hou Han-shu*, by V'ima Kadphises to govern his new Indian

[1] Whitehead, *P.M. Cat.* p. 174.

[2] These remarks apply only to Taxila and the eastern parts of the empire, where the evil precedent set by the Andhras had worked havoc with the Śaka-Parthian currency, not to the Lower Indus region, where there does not seem to have been the same debasement of silver.

provinces,[1] are also very scarce, not more than a dozen (of the type 'Bust of king and king on horseback')[2] having been found on the Sirkap site.

It is probably V'ima Kadphises who is referred to in the silver scroll inscription which I discovered in chapel G 5 at the Dharmarājikā (p. 256). This inscription is dated on the fifth day of Ashāḍha in the year 136 of the era 'of Azes' and refers to the monarch then ruling at Taxila as the 'great king, supreme king of kings, son of the gods, the Khushaṇa'. The era of Azes in which this inscription is dated is no doubt identical with the so-called Vikrama era of 58 B.C., and the year 136 corresponds therefore with A.D. 78. This probably was the year in which, according to my reckoning, Kujūla was succeeded by V'ima Kadphises, and the Kushān monarch referred to might therefore be either the father or the son. Unfortunately his title of *Maharaja rajatiraja devaputra* is not decisive on the point, since the same title is found on coins of the Kara-Kaphsa class, and, without *devaputra*, on the unique silver coins described above. All things considered, however, it seems more likely to be V'ima rather than Kujūla who is referred to. On the other hand, there are still a number of scholars who regard Kanishka as the founder of the Śaka era, and reckon A.D. 78 as the last year of V'ima's and the first of Kanishka's reign. The beginning of V'ima's reign they would place round about A.D. 60. An obvious objection, however, to this scheme of dates is that it makes Kujūla Kadphises, the father of V'ima, some 70 years of age when he won his great victories over the Parthians—a supposition which, on the face of it, is scarcely credible.

Silver scroll inscription of year 136

Date of V'ima Kadphises

My own view, as already indicated, is that Kujūla drove the Parthians out of the Kābul valley about A.D. 50, when he was between 50 and 60 years of age; that his son V'ima then carried his conquests into Gandhāra, the Panjāb and Sind, and eventually succeeded his father in or about A.D. 78.[3] V'ima's reign may then have lasted into the opening years of the second century A.D., after which I surmise that there was an interval of a couple of decades or so before Kanishka succeeded him.[4] During this interval there seems to have been some disintegration of the Kushān power, but it is possible that one or more viceroys under the name of Soter Megas continued to rule in India on behalf of a Kushān overlord.

Apart from what has been said above about the reigns of Kujūla and V'ima Kadphises, there are other grave objections to making Kanishka founder of the Śaka era of A.D. 78. One of these is that for the thirty years between A.D. 73 and 102 Pan-ch'ao, the famous Chinese general, was pursuing his career of unbroken

Date of Kanishka: testimony of Chinese writers

[1] It is noteworthy that the title 'Soter Megas' is first used by V'ima Kadphises. On a copper coin of Soter Megas, published by Whitehead (*P.M. Cat.* Pl. XVI, no. 96) the reverse legend appears to read *Maharajasa rajatirajasa mahatasa tratarasa Vama(ṇa?)*. V'ima K. may also be the 'Vama-Takshama' mentioned in an inscription at Mathurā. Cf. *A.S.R.* (1911-12), p. 124.

[2] *P.M. Cat.* XVI, 101. For another type found at the Dharmarājikā, see R.U.C. no. 250. The horseman figure on coins of Soter Megas suggests that he may have belonged to one of the older ruling families.

[3] It is noteworthy that the Kālawān inscription of the year 134 = A.D. 76 (pp. 327-8 *infra*) makes no mention of a Kushān ruler at Taxila.

[4] Apart from other considerations, the changes in script, language and design in the coins of the two rulers point to an interval between them.

conquest in the west, which added the kingdoms of Shen-Shen, Khotan, Kucha and Kashgar to the Chinese empire.[1] Clearly, therefore, it could not have been during this selfsame period and in these same regions that Kanishka was also winning those great victories which enabled him to extend his dominions to the east of the Tsung-ling mountains and caused the tributary Chinese princes west of the Yellow river to send him hostages.[2] Another equally cogent objection is that the *Hou Han-shu* Annals, which cover the period A.D. 25 to 125 and up to the latter date show an intimate knowledge of what was happening in neighbouring countries to the west, give us a precise account of the reigns of Kujūla and V'ima Kadphises but make no mention of the more famous Kanishka.[3] It was the testimony from Chinese sources that, in the main, led Sylvain Lévi, Fleet, and other distinguished scholars to push back the date of Kanishka to 58 B.C., but since my discoveries at Taxila have proved beyond question that Kanishka followed the two Kadphises, and put this theory entirely out of court, the conclusion seems inevitable that he could not have risen to power until after A.D. 125. This conclusion is also borne out, be it said, by the decadent character of the reliefs on the relic casket from Kanishka's stūpa at Peshāwar,[4] which on grounds of style can hardly be referred to an earlier date than the second century A.D.

Evidence of contemporary monuments

As to monumental remains at Taxila itself, it is significant that the small stūpa K 3 at the Dharmarājikā, which contained three coins of Kanishka, belongs to a class of semi-ashlar structures, including among others the larger stūpas, K 1 and N 4, none of which could have been erected much before A.D. 150 (pp. 262–3). To the same Kushān group belongs also the somewhat later stūpa P 6 (p. 263), which contained three coins of Huvishka and seven of Vāsudeva, and was presumably erected during the latter's reign. Such evidence is not, of course, conclusive, but it warrants at least the presumption that Kanishka was reigning in the middle of the second century.[5]

[1] Cf. Sylvain Levi in *Ind. Ant.* (1903), pp. 421–2.

[2] Vincent Smith (*E.H.I.* 4th ed. p. 269) is doubtless right in holding that the Sie expedition of *c.* A.D. 90, which met with disaster at the hands of Pan-ch'ao, was dispatched by V'ima Kadphises. This expedition has sometimes been confused with the later and successful expedition of Kanishka against the Chinese in Turkestān.

[3] Cf. Franke, *Beiträge*, pp. 70 *sqq.*; Chavannes, *T'oung Pao*, II, viii, p. 150; Konow, *C.I.I.* II, p. lxxv.

[4] That is, assuming the correctness of their attribution to Kanishka I. If Kanishka began his reign in A.D. 78, the Taxila silver scroll is within a year of the Kanishka casket, and within little more than a decade of the Sui Vihār and Zeda records, which on epigraphical grounds is open to objection.

[5] A sidelight on this question of Kanishka's date comes from two inscribed sculptures of the Mathurā School at Sāñchī in East Mālwā (Ākara). One of the inscriptions is dated in the year 22 of the Kanishka era and in the reign of a Rāja Vaskushāna, whom we may take to have been a minor feudatory of the Kushāns; the other is dated in the year 28 and in the reign of Vāsashka, son (?) of Kanishka. Assuming that Kanishka's era started in A.D. 78, these dates would correspond with A.D. 100 and 106, respectively; assuming that it started in A.D. 128, they would correspond with A.D. 150 and 156. It is clear, however, that the sculptures could not have been dedicated at the earlier dates, since Sāñchī was then in possession of the Andhras, who were wholly independent of the Kushāns and would certainly not have tolerated the setting up of these records. On the other hand, they might have been

Successors of Kanishka I

Kanishka I reigned for 23 years, i.e. according to my reckoning, from *c.* A.D. 128 to 151, and was succeeded by Vāsashka, Huvishka, Kanishka II and Vāsudeva. The order of succession, however, is not altogether clear. We know from inscriptions that Vāsashka, who was presumably a son of Kanishka I, was reigning between the years 24 and 28, and that Vāsashka's son, Kanishka II, was reigning in 41. We know, too, that Huvishka bore the lesser title of *mahārāja* between the years 29 and 39 and the higher title of *rājatirāja* between 40 and 60, and that Vāsudeva was on the throne between the years 74 and 98. From these data it has been inferred that after Vāsashka's death, Huvishka, who was probably his brother or uncle, acted for some years as regent on behalf of his son, Kanishka II, and when the latter came of age in the year 39 or 40, was associated with him as co-emperor for a short while, but on his premature death succeeded him as sole emperor. Neither Vāsashka nor Kanishka II appears to have struck any coins, and we know little about them except their names. It is possible, however, that Kanishka II is identical with the Kanika who, according to Tāranātha, was a prince of great wealth (thanks to the then recent discovery of some 'diamond' mines),[1] who erected four great stūpas at the four points of the compass and provided for the maintenance of 30,000 *bhikshus*.[2]

Huvishka and Vasudeva

Huvishka died some time between the years 60 and 74 (? A.D. 188 and 202). The imperial title *shaonana shao*, 'king of kings', which is used by him on all his coins, suggests that he did not start minting until the year 40 (? *c.* A.D. 168), when he is first given the title *rājatirāja* in lithic records. While the number of Huvishka's coins from all the sites at Taxila is no more than seventy-three, Vāsudeva's are more than eleven times as numerous, totalling 831 in all, of which 785 come from Buddhist sites.[3] They corroborate, therefore, the evidence already obtained from other sites in the North-West and Hindustān that Buddhism was as flourishing under Vāsudeva as it had been under his Kushān predecessors, notwithstanding that his coins display only the Indian Śiva and the Babylonian Nana (Anahita). Indeed, I would venture to go further than this and state my impression, gathered from many years of excavation on Buddhist sites, that the reign of Vāsudeva marks one of the most progressive periods of Buddhist history. Vāsudeva has been identified with a Yüeh-chi king called Po-t-iao in Chinese,

dedicated when Ākara was in possession of one or other of the Western satraps who acknowledged the suzerainty of the Kushān emperor, i.e. either during the reign of Nahapāna, whose known dates are from A.D. 119 to 124—in which case Kanishka's era must have started a few years before or after A.D. 100—or after Ākara had again been wrested from the Andhras by Rudradāman I—an event which took place shortly before A.D. 150—in which case Kanishka's era must have started in or after A.D. 128. Of the two dates, the later is for every reason the more likely. In any case these inscriptions seem to put A.D. 78 quite out of court.

[1] Among the host of gems recovered from ancient sites in India the diamond is not included.

[2] Cf. F. W. Thomas, 'Mātṛiceṭa and the Mahārājakanikalekha', *Ind. Ant.* (1903), p. 348. Prof. Thomas also suggests that Kanishka II was probably the addressee of the 'Epistle of king Kanika' by the poet Mātṛiceṭa, wherein he is described as a scion of the Kusa family and 'ruler of the North'. It is noteworthy that Tāranatha's Kanika is said to have been king in Mālava.

[3] For details, see p. 788.

who was reigning about the year A.D. 229. The last recorded date for Vāsudeva is the year 98, which, assuming that the era started in A.D. 128, would correspond with A.D. 226. He may well have been reigning, however, for several years after the date given in this particular inscription.

Art of Gandhāra

The rapid advancement of Buddhism which took place under the patronage of the early Kushān kings was accompanied throughout the North-West by great building activity and a lavish display of iconic and decorative art which was to have far-reaching effects on the future of that religion. At Taxila, this period was marked by the foundation of many imposing monasteries, notably at Kālawān, Giri, Jauliāñ and Mohṛā Morādu, and by the erection of stūpas and chapels adorned with images of the Blessed One or with sculptural reliefs for the edification of the faithful. Most of the sculptures were imported from the country beyond the Indus, where a novel and most arresting type of ecclesiastic art was now being turned out by the local ateliers of Gandhāra. As the history of this Gandhāra School will be discussed in detail in a later chapter, there is little that need be said about it here. There are three salient points, however, which claim the special attention of the reader. The first is that the Gandhāra School was an indigenous growth inspired as much by the traditions of the Early Indian Schools which had preceded it as by those of the Hellenised Orient. Its art, therefore, is to be sharply distinguished from the late Hellenistic art of Western Asia, many examples of which have been found, particularly among the Parthian ruins, at Taxila. The second point is that the Gandhāra School followed the precedent of the older Indian Schools in drawing on the *Jātakas* and Life Story of the Buddha for its subjects; on the other hand, it defied all tradition and revolutionised liturgical worship by portraying the Buddha in bodily form. In the Indo-Afghān School, as we shall presently see, the Buddha or Bodhisattva image was destined almost entirely to replace the pictorial panel in the adornment of sacred edifices. The third point for notice is that the Gandhāra School is known to us almost exclusively from its stone sculptures, which occur in vast numbers in Gandhāra itself and have been found in places as far distant as Benares and Rājgīr, and even in remote Northumberland.[1] No doubt stucco and clay were also in use, but only a few specimens of the former have survived (p. 253) and, so far as I am aware, none of the latter. In contrast with this, the artists of the Indo-Afghān School habitually worked in stucco or clay, rarely, if ever, in stone.

Decline of the Kushān empire and invasion of Ardashir-i-Bābegān

Vāsudeva I was the last of the great Kushān monarchs. The decline of the Kushān empire set in during his lifetime, and after his death the process of disintegration was hastened by the rapidly rising power of the Sasanids in Persia. Ardashīr-i-Bābegān, founder of the Sasanid Dynasty (A.D. 226–40), quickly overcame the Kushāns of Bactria and established a provincial government there under

[1] According to the late Prof. Haverfield, some pieces of Gandhāra sculptures were found on the Roman Wall in Northumberland. He explained their presence there on the assumption that one of the Roman legions had acquired them when stationed in Mesopotamia, and on transfer to Northumberland had taken the sculptures along with it.

a prince of the royal house in Balkh. Thence he proceeded to invade the Paropamisadae, Gandhāra and the Panjāb, and, according to Firishtah, penetrated as far east as Sirhind. But there is no evidence that his Indian campaign had any lasting effects or that Taxila or any part of the Kushān realm south of the Hindu Kush came at that time under the Persian yoke. Possibly it was this invasion of Ardashīr's that caused the hurried burial of the many hoards of Vāsudeva's coins that have been unearthed in Buddhist monasteries of the third century at Taxila and elsewhere and the widespread destruction of the monasteries themselves. If so, it would seem to have been attended by no little loss of life among the Buddhist monks; for we may be sure that, if the owners of the coins had survived, they would sooner or later have managed to recover their property.

Successors of Vāsudeva I

Although, however, the Kushān empire lost outlying territories both east and west, there are no grounds for assuming, as some writers have done, that the heart of the empire, that is, the Panjāb, Gandhāra and the Paropamisadae, was split up into a number of independent principalities. Unfortunately, of the successors of Vāsudeva I in the third and early fourth centuries A.D. we know no more than can be gleaned from their coins, which is singularly little. Debased copies of Vāsudeva's copper issues continued to be struck, as those of Hermaeus had been, long after his death, and large numbers of them have been found at Taxila. Besides these, there are certain gold pieces with legends in corrupt Greek and Brāhmī which give us the names of three rulers who are probably to be assigned to the third or early fourth century A.D., viz. Kaneshko (? Kanishka III), Vāsu (? Vāsudeva II), and another Vāsudeva. None of these gold pieces have been found at Taxila, but that is of little significance, since gold coins of any period are very rare at Taxila, and the Sirsukh site, where coins of the Kushāns are likely to be most abundant, has scarcely yet been touched by the spade.

Invasion of Shāpur II and its consequences

In the middle of the fourth century the Kushāns were again at war with Persia and appear, this time, to have suffered a more crushing defeat. Mention is made of this war by the Roman writer Ammianus, who tells us that between A.D. 350 and 358 Shāpur II was engaged on his far eastern frontiers fighting the Cuseni and Chionitae. The former are evidently the Kushāns, and the latter a branch of the Huns known to the Chinese as 'Jouan-Jouan' or alternatively as 'Hiung-nu',[1] who on this occasion may have been making common cause with the Kushāns in an effort to throw off the Persian yoke. That Shāpur II crossed the Hindu Kush and attacked the heart of the Kushān realm to the south of it is clear from an inscription found by Herzfeld at Persepolis, which shows that in A.D. 356 Shāpur had made Kābul his base of operations against Gandhāra and the Panjāb.[2] As far as Taxila is concerned, the result of Shāpur's victory is to be seen in the influx of

[1] Hiung-nu in the *Wei-shu*, but Jouan-Jouan in T'ong Tien and Ma-twan-lin. Cf. M. F. C. Martin, 'Coins of Kidāra and the Little Kushāns' in *J.R.A.S.B.* Letters, vol. III (1937), no. 2, p. 26.

[2] Martin, *loc. cit.* p. 31. The inscription was written by a chief justice of Kābul named Slōk, who prayed that Shāpur II might return safely from his campaign (in Gandhāra and the Panjāb).

Sasanian copper money which followed it and persisted for the next generation, leaving no room for doubt that during that period the local currency in the Panjāb was controlled by Persia.

Invasion of Kushāns from Bactria under Kidāra

The latter part of the fourth century was notable for another invasion of the North-West, in which Taxila must inevitably have been involved. This was the invasion of the Bactrian Kushāns under their chief Kidāra, which is mentioned in the *Weï-shu* or *Annals of the Weï Dynasty* covering the period A.D. 386–556. The chief passage, as translated by Specht and Martin,[1] runs as follows: 'The kingdom of the Ta Yüeh-chi has for its capital the town of Lou-kien-chi (Balkh) to the west of Fo-ti-cha (Bāmiyān), at a distance of 14,500 li from Tai (Weï capital in Northern Shansi). The Ta Yüeh-chi found themselves threatened on the north by the Jouan-Jouan (White (*sic*) Huns), and were exposed on several occasions to their raids. They therefore migrated to the west and established themselves in the town of Po-lo (Balkan, east of Krasnovodsk and the Caspian Sea) 2,100 li from Fo-ti-cha. Their king Ki-to-lo (Kidāra), a brave and warlike prince, raised an army, crossed to the south of the Great Mountains and invaded Northern India, where the five kingdoms to the north of Kan-tho-lo (Gandhāra) submitted to him.' In another passage the *Weï-shu* adds that 'Kidāra, having been pursued by the Hiung-nu and having retired to the west, ordered his son to establish himself in this town of Fou-leou-cha (Peshāwar). These people are consequently called Little Yüeh-chi.' The *Encyclopaedia of Ma-twan-lin*, a much later compilation of the thirteenth century, also tells us that 'the capital of the Little Yüeh-chi is the town of Fou-leou-cha. Their king was a son of Ki-to-lo; he was placed in charge of this town by his father when this prince was forced, by the attacks of the Jouan-Jouan, to march westwards.' The meaning of the above quotations is not altogether clear, but taken together they seem to imply: (1) that Kidāra attacked the existing Kushān realm south of the Hindu Kush and conquered the Paropamisadae, Gandhāra and, in all probability, the Panjāb; (2) that, when the Kushāns were forced out of Bactria by the pressure of the Huns, Kidāra returned to that country, leaving his son Piro in command at Peshāwar (where he had established his capital), and led a migration of his people from Bactria westward to Balkan.[2]

Explanation of their name 'Little (Siao) Yüeh-chi'

The statement that the Kushāns settled by him at Peshāwar subsequently came to be known as 'Siao' or 'Little' Yüeh-chi is explained by the fact that Peshāwar was founded by Kanishka I and so peculiarly associated with the Little Yüeh-chi of which he was one. Ethnically they were, of course, quite distinct from the Siao Yüeh-chi of Khotan, and to avoid the risk of confusion it is better perhaps to call them Kidāra Kushāns, after the founder of the dynasty, rather than Little Kushāns.

[1] Martin, *loc. cit.* pp. 24–5. Martin conjectures that Kidāra's invasion of Gandhāra was one of the causes which led to Shāpur's campaign of A.D. 350–8, but as the *Weï-shu*, which is our main authority for these events, covers the period between 386 and 556, it seems clear that Kidāra's invasion could not have taken place before the former date. The Jouan-Jouan appear to be the Hiung-nu, not the White Huns (Ye-tha), as conjectured by Martin.

[2] For a different interpretation of the above passages, see Martin, *loc. cit.* p. 26.

From the eclipse of Sasanid power in the Panjāb down to the coming of the White Huns, that is, from about A.D. 390 to 460, the Kidāra Kushāns seem to have occupied the leading position in the North-West and Panjāb. Of the political history of this period we know next to nothing, but the splendid remains of Buddhist monumental art dating from the fifth century leave us in no doubt either as to the prevailing wealth of the Kushāns or as to the essential cultural and political unity of the areas east and west of the Indus over which they still ruled, and inasmuch as the Kidāra Kushāns are known to have been ruling in Gandhāra, there is a strong presumption that they were also paramount at Taxila and in south-eastern Afghānistān. Paramount position of Kidāra Kushāns in fifth century A.D.

The art of this Indo-Afghān School which finds expression in these monuments deserves more than passing notice. The School was essentially a product of the North-West. It grew almost directly out of the ashes of the older Gandhāra School and necessarily inherited much from it. Like its predecessor, too, it owed much to the patronage of the Kushāns, who had been resident for many generations in Bactria and must have been impregnated with its semi-Hellenistic culture. Historians have been apt to picture the Kushāns as a half-civilised, nomadic people, able to contribute little to the culture of the North-West; and this picture may be true of them when they were still settled east of the Oxus in the second century B.C., but it can hardly be true of them when they crossed the Hindu Kush to conquer India in the first century A.D.; for they had then been enjoying a settled life in Bactria for nearly 200 years, and may be assumed to have been as cultured as the Bactrians themselves and no less familiar than they with whatever survived of Hellenism in that congenial atmosphere. And the same may, of course, be affirmed of the Kidāra Kushāns, who did not leave Bactria until three centuries later, only that they were still more closely identified with the mixed culture of Bactria, which in the meantime had undergone many changes. Indo-Afghān School of art

But although these two Schools thus had much in common, there were radical differences between them. While the earlier sculptors employed stone as their principal medium, the later employed clay and stucco and, thanks to the plasticity of these materials, attained a command of form and a vitality of expression which are lacking in the more academic work of the earlier school. Naturally there was a danger of inferior workmanship owing to the ease with which these softer substances could be fashioned by hand or cast in moulds, and it will not surprise us to find many of the sculptures over meretricious or disfigured by mechanical repetition and carelessness. At its best, however, the work of this School, as illustrated, for example, in Pls. 137, 151 and 153, is far in advance of anything of which either the older sculptors of Gandhāra or the contemporary sculptors of Hindustān were capable. With the Sasanid art of Persia the Indo-Afghān School had nothing in common. However else the Persian conquerors may have influenced the culture or economy of the North-West, they contributed nothing of value to its art.

Extension of School east of Indus explained

The question may be asked why this Indo-Afghān School took root and flourished not only in Gandhāra, where its predecessor had flourished, but over a considerable

area east of the Indus as well. The reason, I think, was a very practical one and had nothing to do with any hypothetical difference in the artistic temperament of the peoples west and east of the river. It was merely that the area between the Indus and Jhelum rivers possessed no stone sufficiently soft and fine-grained for carving, and no development of this art was feasible, therefore, until stone was replaced by other materials which were locally available.

Political significance of school

A school as prolific, vital and homogeneous as the Indo-Afghān obviously could not have existed unless the country had been thoroughly prosperous and the government settled and stable. In my view, that government was supplied by the Kidāra Kushāns, who appear to have been paramount over the whole of the area concerned. Apart from coins of these Kidāra Kushāns only five pieces (all gold) of other contemporary rulers have been found at Taxila, viz. two of Chandragupta II, one of Bacharaṇa and two of Bhadra. Where Bacharaṇa and Bhadra had their kingdom we do not know; possibly it was in the Jech Doāb between the Jhelum and Chenāb rivers; in any case there is no reason to suppose that it was at Taxila.

Ephthalites o White Huns

The power and culture of the Kushāns were finally destroyed, together with their monuments, by the hordes of Ephthalites or White Huns which swept over Gandhāra and the Panjāb in the third quarter of the fifth century, carrying ruin and desolation wherever they went.[1] The date of their invasion (*c.* A.D. 460) is supplied by the Chinese pilgrim Sung Yun, who writing in 520 says that two generations had elapsed since Gandhāra had been devastated by the Ephthalites (Ye-tha); and this date is confirmed by finds made in some of the burnt-out monasteries of Taxila, notably by a number of silver Ephthalite coins of the period preceding Toramāṇa (who is known to have been ruling in A.D. 500), but not including any coins of Toramāṇa himself[2] or of his son Mihiragula. It is well to stress this date, because Hsüan Tsang, writing nearly two centuries later, makes the mistake of attributing the destruction of the Buddhist monasteries to Mihiragula, the 'Attila of India', around whose name many legends of ruthless savagery and persecution had already gathered.

Physical characteristics

The coins mentioned above (Pl. 245) portray the heads of several Ephthalite chiefs of a quite unusual type, with high conical dome, flat vertical occiput, long prominent nose and somewhat protruding eyes; and it is noteworthy that precisely the same features also characterise one of the skulls belonging to combatants who were killed in the sack of the Taxila monasteries. According to Dr Guha, whose analysis of the skeletal materials from Taxila is set out in chapter 12, skulls of a closely analogous type have been found in cemeteries of the early Christian era to the south of Turfān in Eastern Turkestān, near the boundary of what is believed

[1] On the Ephthalites or White Huns and the various names by which they were known in antiquity, see A. Cunningham in *N.C.* (1894), pt. III, pp. 243 *sqq.*; Ujfalvy, 'Mémoire sur les Huns Blancs' in *L'Anthropologie* (Paris, 1898); A. Stein, 'White Huns and Kindred Tribes' in *Ind. Ant.* (1905); J. J. Modi, 'The Early History of the Huns' in *J.B.R.A.S.* (1915–17), pp. 567 *sqq.*

[2] I do not accept Cunningham's identification of Toramāṇa with the White Hun Chief whose name appears variously as Jabula, Jabuvla, etc.

to have been the original homeland of the White Huns;[1] and the same features are said to be characteristic of some modern Tadjik skulls from Kashgar and the Tarim Basin. To attempt to draw from such slender data any inferences as to the racial origin or early affinities of the Ephthalites would obviously be rash, but it is clear at least that from a physical point of view they had nothing in common with the Huns of Attila, whose flat noses, small beady eyes, deeply set in the head, and almost beardless faces bore witness to their Mongolian extraction.

Coin legends

The same coins also furnish us with several proper names which have been read respectively as 'Jabula', 'Jarusha', 'Jatukha' and 'Jaruba'. The natural assumption is that they are the names of the chiefs whose heads appear on the coins, but they may be nothing more than Brāhmī variants of the name of the Zabuli tribe of White Huns, which also appears as 'Jauvla' or 'Jabuvlah' in Brāhmī and as 'Zobol' in Kushān Greek. As I have elsewhere noted, it was this tribe which gave its name to Zabulistān and may be presumed to have taken a leading part in the conquest of Northern India.[2]

Ephthalite cruelty and vandalism

Procopius tells us that the Ephthalites were more civilised than the Huns of Attila. They might easily have been so; but in India, as in Persia, they were remembered mainly for their religious persecutions and revolting cruelties. At Taxila, evidence of their vandalism is to be seen all too clearly in the wreckage of monasteries and stūpas, and in the skeletons of the slaughtered lying amid the debris. From this disaster Taxila never recovered. Though the power of the Huns was broken before the middle of the sixth century, little effort seems to have been made to repair the damage they had done, and when Hsüan Tsang visited the city in the following century (*c.* A.D. 630), he found most of its *saṅghārāmas* still ruined and desolate, and the State itself a dependency of Kashmīr, with the local leaders fighting among themselves for power. He notes, also, that some time previously (presumably after the overthrow of the Ephthalites) it had been subject to Kāpiśa, but he does not tell us which dynasty was then ruling in the Paropamisadae.

Subjection of Taxila to Kashmīr, Kābul and Ohind

In the eighth century Kashmīr was still extending its territories and was strong enough even to inflict a crushing defeat on the distant Kanauj (*c.* A.D. 740). It may be taken for granted, therefore, that during that century Taxila continued to be included among its feudatories. But in the following century, when the power of Kashmīr had declined, Taxila again changed masters, this time being absorbed into the kingdom of the Turkī Śāhis of Kābul—and subsequently of the Hindu Śāhis who succeeded them. The Turkī Śāhis, who claimed descent from Kanishka, had made their first capital at Kābul, but in 870 after their defeat by the Arab Yā'kūb Lāis, they transferred it to Ohind (Udabhāṇḍapura) at the main crossing of the Indus, and it was there that a few years later their dynasty was replaced by that of the Hindu Śāhis.[3] The latter, who still continued to be known as the Śāhis

[1] Cf. M. E. Specht, 'Études sur l'Asie Centrale', in *J.A.* (1883); A. Hermann in 'Die Hephthaliten und ihre Beziehungen zu China', *Asia Major* (Leipzig, 1925).

[2] Cf. p. 791 *infra*.

[3] Like the satraps of Chukhsa, the Śāhis of Ohind held the crossings of the Indus, Gandhāra and a considerable part of the Panjāb. Cf. pp. 47-8 *supra*. For coins of the Hindu Śāhis found at Taxila, see p. 794.

of Kābul, notwithstanding that they were never actually in possession of that place, survived until A.D. 1013, when Trilochana-pāla, the last reigning king, was overthrown by Mahmūd of Ghaznī.

Here we must take leave of the history of Taxila which I have traced in such outline as was possible for the fifteen centuries between 500 B.C. and A.D. 1000. During that long period Taxila had enjoyed independence for less than fifty years, i.e. from the break-up of the Maurya empire to the coming of the Bactrian Greeks. For the remaining fourteen and a half centuries it was under the heel of foreign rulers, the best and most enlightened of whom were probably the last—the Hindu princes of Ohind. Of them Alberūnī says: 'They were men of noble sentiment and noble bearing, who, with all their grandeur, never slackened in their ardent desire of doing that which is good and right.' Could higher tribute have been paid by a conqueror to his foes?

Appendix A

ON THE SUPPOSED REPRESENTATION OF THE BUDDHA ON ŚAKA COINS

TARN holds that Maues' patronage of Buddhism is shown by the portrayal of a seated figure of the Buddha on one of his coins.[1] The figure in question has usually been interpreted by numismatists as that of the king himself 'seated, cross-legged on cushion and holding a sword or mace on his knees'. But Tarn, following Longworth Dames, contends that the so-called sword or mace is in reality the back of the Buddha's throne; that the figure is not seated on a cushion which would 'go down in the middle and up at the ends' if a man were sitting on it; and that the elephant rampant on the obverse of the coin is supposed to be doing reverence to the seated figure on the reverse and offering a wreath to it. He contends, also, that the fact that the figure is placed on the reverse should alone be conclusive that it cannot represent the king. None of these arguments is convincing. In placing his own figure on the reverse, Maues was following the precedent set by Antimachus II Nikephoros, who appears on horseback on the reverse of his silver issues, with a Nike holding palm and wreath on the obverse.[2] Dr Tarn himself maintains that Antimachus Nikephoros ruled in Gandhāra, and that it was in Gandhāra also that Maues struck this particular coin. It would be quite natural, therefore, for the latter to follow in this particular the example set by his Greek predecessor. The 'Elephant with wreath', which takes the place of the 'Nike with wreath' on the obverse of the coin, was copied from a similar type on a square copper coin of Antialcidas, the other face of which bears a bust of the king.[3] If, therefore, there was any connexion between the types on the obverse and reverse, it is natural to suppose that it was the same in both cases. The motif of an elephant offering flowers to the Buddha or to a tree or stūpa symbolical of the Buddha, was, of course, common enough in early Indian sculpture, but it would not have been in any way repugnant to Indian ideas for an elephant—whether regarded as an emblem of Taxila or of India—to take the place of a Nike in offering a wreath to the king. It is highly unlikely, however, that any such connexion was intended by the designers. Anyone familiar with the early Indian School knows how fond its sculptors were of depicting elephants in any and every sort of posture; and in all probability the designer of the earlier coin merely selected one of the well-known types without any regard to the bust on the other face, and the designer of the later coin copied him with equal disregard to the seated figure on the reverse.

As to the sword or mace, I find it quite impossible to accept Dr Tarn's suggestion that it is the back of a throne. To me it is manifestly the same sort of weapon and held in the same way as the one depicted on an analogous coin of Azes.[4] In the whole series of Greek and Śaka coins these are the only two which show a seated figure of this kind, and there can be no reasonable doubt that Azes was imitating the design on his predecessor's coin, though his engraver gave a more regal gesture to the arms. In both cases the weapon appears to represent a short sword partly unsheathed, with the scabbard to the proper left of the figure, the hilt of the

[1] Cf. Tarn, *op. cit.* pp. 399–404; and for the coin, cf. R.U.C. no. 131; *B.M. Cat.* Pl. XVII, no. 5; Cunningham, *op. cit.* Pl. III, no. 17; *P.M. Cat.* Pl. X, no. 31.

[2] *B.M. Cat.* Pl. XIII, no. 3.

[3] Cf. R.U.C. no. 74.

[4] *B.M. Cat.* Pl. XIX, no. 1; Cunningham, *op. cit.* Pl. VI, no. 9; *P.M. Cat.* Pl. XI, no. 195.

sword to his right, and the thin line of the blade itself just visible in front of the body.[1] As to Dr Tarn's argument about the cushion, we need only observe that, on the coin of Azes, the cushion on which the king is seated is far more convex in shape than it is on the coin of Maues. All things considered, then, we must decline to accept this coin of Maues as evidence of the existence of Buddha images in his reign.

[1] See particularly the specimen illustrated in *B.M. Cat.* Pl. XIX, no. 1, where the blade is clearly shown, and the king is gripping the top of the scabbard in his left hand. Compare also *infra,* 'Iron Objects', ch. 27, Classes XVIII and XIX.

Appendix B

INDIAN UNIVERSITIES

(1) Extract from a letter of 22 October 1944, from Prof. F. W. Thomas, C.I.E., M.A., Ph.D., F.B.A.

I have never supposed that those 'Universities' were anything but organised groups of independent teachers, such as you describe, without common buildings or action. Was not the same the case in early Oxford and Cambridge? In Benares it is still, I believe, largely so, apart from the modern colleges and University on European lines. As a capital, Taxila would be a natural centre, though I have always reserved the possibility that its grammatical interest had a remote origin. Poona is still, I think, a centre of Pandit teaching, and Benares, of course, from very early times. It is also certainly the case that groups spontaneously formed have given fame to minor places, such as Nadiya, and individuals, such as Divakaramitra in the Harṣacarita, have attracted assemblages of teachers in country *āśramas*.

I have a book, *Education in Ancient India* (1934), by Professor Altekar of Benares University, which cites all the available texts and other information, and I will enclose an extract from it which you may find sufficiently confirmatory.

Real Universities, with colleges (*sc.* monasteries) and endowments, were created by Buddhism. These, of course, Nālandā, Vikramaśīla, etc., were primarily religious and sectarian, and the students and teachers were monks or aspirants to monkhood. But that, as we know from Hiuen-tsang and I-tsing, did not preclude a keen interest in general studies, literary, scientific, and philosophic, including even subjects specially Brahmanic, such as the Veda. In numbers and fame and in splendid buildings and rich endowments these were, of course, great institutions, but they do not belong to the early centuries A.D. In Central Asia and China the Buddhists usually founded pairs of (real) colleges, one for religion and doctrine (*dharma*), the other for contemplative philosophy (*dhyāna*). These were about contemporaneous with Nālandā. In Tibet also the same was the case at Samye (Bsam-yas), the vast foundation of *c.* A.D. 790. The still huger monastic establishments of later date in Tibet are largely, or mainly, occupied with studies and teaching, Buddhist, of course, but with logic, metaphysics, medicine, etc.

(2) From *Education in Ancient India* (1934) by Prof. Altekar, pp. 79–80.

In ancient India for several centuries the relations between the teacher and the student were direct, i.e. not through any institution. Buddhism had its own Saṅghas or monasteries, which developed into educational institutions in the course of a few centuries; but, as far as Hinduism is concerned, we do not so far find any regular educational organisations or institutions till about the beginning of the ninth century A.D. For centuries Hindu teachers like Hindu Sanyāsins had no organised institutions. We come across several *Jātaka* stories about the students and teachers of Takshaśilā, but not a single episode even remotely suggests that the different 'world renowned' teachers living in that city belonged to any particular college or university of the modern type. Each of them was conducting an independent educational institution. European travellers of the seventeenth century have noted a similar state of affairs at Benares. Bernier says: 'Benares was a kind of university, but it has no colleges or regular classes, but resembles rather the schools of the ancients, the masters being spread over in different parts of the town in private houses.'

(3) From a letter dated 16 October 1944, from Dr Lionel D. Barnett, M.A., Litt.D., F.B.A.

How an Indian 'University' was constituted in ancient times seems to be a problem which at present is not to be definitely solved. But we can draw conclusions from analogies. Wherever pandits of a particular branch of study settled in numbers large enough to form a sabhā or parishad, they formed one. We may therefore infer that this was the case in e.g. Taxila. Here a nucleus would be formed in the earliest period of pandits learned in the various branches of Vedic studies, which at the outset included Vedanta, Pūrvamīmāṃsā, and grammar. These would constitute a Faculty, with which in course of time might be associated professors of other orthodox philosophies. Teachers of medicine probably would have a sabha of their own; it seems likely that astronomers, astrologers, and mathematicians, though originally associated with Vedic studies, became later more or less independent, with sabhās of their own. No doubt teachers of less reputable arts had also their sabhās, when they were numerous enough to make them up. But whether the various Faculties ever met together in a general University Convocation, we do not know. Possibly the representatives of the higher Faculties did assemble together on some occasions, as representatives of different castes might do; and for such an assembly there may have been a hall. But this is conjecture.

That some Faculties in Northern India had endowments in land, etc., for the support of their teachers and students seems certain in the case of Brahmans: and the system was probably continued after Brahmanism had been to a large extent supplanted by Buddhism. For later times South India gives us much information. Here we find records of many endowments for special studies—Vedic, Śaiva, Vaishṇava, etc.—and some of these created quite large institutions, whose teaching staffs must have met in assemblies. Thus the Pallava king Nṛipatuṅga-varman granted 3 villages as foundation for a Brahman college at Bahur (*South Indian Inscriptions*, vol. II, p. 513). Under the Cholas many endowments were granted for special studies. The Great Assembly of Tribhuvanamādevi-chaturvedimaṅgalam in the 30th year of Rājādhirāja I voted lands to found a college of Vedic studies where 12 professors of Vedic literature and 7 others were to teach 260 students Veda, Vedānta, the Epics, grammar, Manu, and Vaikhānasadharma-śastra; the annual rations were to be 9,525 kalams of paddy (*M.E.R.* (1918–19), p. 96). Again, the Assembly of Rājarāja-chaturvedimaṅgalam (Eṇṇāyiram) in the reign of Rājendra I voted an annual endowment of 61½ gold kalañjus and 10,506 kalams of paddy for the maintenance of 340 students and their professors, who were to lecture on the Vedas, ritual books, grammar, Pūrvamīmāṃsā, and Vedānta (*M.E.R.* (1917–18), p. 145). The likeness of this to our medieval Universities, as well as the difference, is obvious.

CHRONOLOGY OF PRINCIPAL EVENTS CONNECTED WITH THE HISTORY OF TAXILA

N.B. Many of the dates are approximate; others are conjectural

B.C.	
3500–2500	Flourishing period of pre-historic (Chalcolithic) civilisation of the Indus.
2500–2000	Probable date of Āryan invasions.
1200–1000	Earliest hymns of the Ṛigveda.
1000–600	Brāhmaṇa period: Later hymns of the Ṛigveda; war between Kurus and Pāṇḍus. Brāhmaṇas and earliest Upanishads.
600–200	Sūtra period.
563–483	Siddhārtha or Gautama Śākyamuni, the Buddha.
558–529	Cyrus (Kurush), founder of the Achaemenid empire of Persia, conquers Bactria, the Paropamisadae and Gandhāra.
540–468	Vardhamāna Jñātṛiputra Mahāvīra, the last Tīrthaṅkara of the Jains.
522–486	Darius Hystaspes (Daryavush Vishtaspa), king of Persia, annexes North-West of India, including Taxila, to the Persian empire, c. 518 B.C.
	Probable date of earliest city on the Bhir Mound. Introduction of Aramaic for official purposes by Persians. Skylax of Karyanda explores the lower course of the Indus (c. 517 B.C.).
486–465	Xerxes (Khshayarsha), king of Persia. Persian domination of North-West of India continues until end of Achaemenid dynasty.
415–397	Ctesias, Greek physician, at the court of Artaxerxes Mnemon, king of Persia.
326	Alexander the Great receives submission of Āmbhi, king of Taxila, and afterwards defeats Porus (Paurava) at the Jhelum (Hydaspes) river.
	Philip, son of Machatas, appointed satrap of Taxila.
324	Philip assassinated at Taxila; Eudamus appointed, as temporary measure, in his place.
323	Death of Alexander at Babylon.
321	Second partition of Macedonian empire at Triparadeisos. Seleucus Nicator obtains Babylon, Syria and Persia. Āmbhi confirmed in possession of Taxila and the Hydaspes country; Porus in that of the Lower Indus.
c. 317	Eudamus withdraws from India, and Chandragupta, founder of the Maurya empire, makes himself master of the Panjāb.
312	Seleucid era established (1 October); Canon of Jaina scriptures fixed.
305	Seleucus Nicator (312–280 B.C.) invades India and is repulsed by Chandragupta, with whom he makes a treaty of peace.
c. 300	Megasthenes, ambassador of Seleucus, at court of Chandragupta at Pāṭaliputra.
298	Death of Chandragupta and accession of his son Bindusāra (= Gr. *Amitrochates*). During Bindusāra's reign his son Aśoka is viceroy at Taxila.
	Deimachus is ambassador of Seleucus at Pāṭaliputra.
274	Accession of Aśoka Maurya.
c. 262	Conversion of Aśoka to Buddhism.
250	Approximate date of foundation of kingdom of Bactria by Diodotus, and of kingdom of Parthia by Arsaces.
232	Death of Aśoka, followed by gradual break-up of the Maurya empire.
220	Approximate date of establishment of Andhra kingdom.
206	Antiochus III, the Great, king of Syria, after concluding peace with Euthydemus I, king of Bactria, makes hurried invasion of Kābul valley (Paropamisadae) and receives submission of Sophagasenus (Subhagasena).
c. 200	Euthydemus takes possession of the Paropamisadae, Arachosia and Sīstān.
c. 189	Demetrius succeeds his father Euthydemus and proceeds to the conquest of Gandhāra, the Panjāb and the Indus valley. He makes his capital at Taxila.
	From Demetrius onwards the following were the Greek kings or sub-kings of Taxila: Pantaleon, followed by his brother Agathocles (c. 182 B.C.); Apollodotus I (c. 175); Menander (c. 163); Strato I, with Agathocleia as regent (c. 150); Heliocles, son (?) of Eucratides (c. 145); Lysias (c. 135); Antialcidas (c. 125); Archebius (c. 100).

B.C.	
c. 189 (cont.)	Sub-kings in Gandhāra under Menander and Strato were Antimachus II, Polyxenus and Epander; and under Heliocles and his successors, Philoxenus, Diomedes and Artemidorus.
	In Arachosia Zoilus I was probably a sub-king under Menander or Strato I; and Lysias may have started there as a sub-king under Heliocles.
c. 184	Pushyamitra (c. 184–148 B.C.), king of Vidiśā and commander-in-chief of the last Maurya emperor, deposes his sovereign and makes his capital at Pāṭaliputra. He champions Brahman reaction against Buddhism.
c. 180–169	Greek army, probably under command of Menander, after driving Pushyamitra out of Śakala, invades Midland Country and reaches Pāṭaliputra.
c. 175	Apollodotus I succeeds Agathocles as ruler of Taxila and other Greek territories west of the Jhelum.
c. 165–163	Eucratides, who had already deprived the Euthydemids of Bactria, Sogdiāna, Āria, Sīstān and Arachosia, extends his conquests to the Paropamisadae and Gandhāra. Whether he crossed the Indus and reached Taxila is uncertain.
c. 163	Apollodotus I succeeded by Menander, who unites two Greek kingdoms east and west of the Jhelum, with capital at Śākala.
c. 159	Mithridates I of Parthia (171–138 B.C.) wrests newly won possessions in Āria and Arachosia from Eucratides.
c. 158	In Bactria, Eucratides is succeeded by Heliocles (his son ?).
c. 155	Initial year of Early Saka era.
c. 150	In the Panjāb, Menander is succeeded by Strato I (his son ?).
c. 145	Heliocles regains Arachosia partly from Mithridates I, partly from Strato I, and extends conquests of Eucratides over Western Panjāb, driving Strato I to the east of the Jhelum.
c. 140	Greeks abandon Bactria to the advancing Śakas.
c. 135	Lysias succeeds Heliocles at Taxila.
c. 125	Antialcidas succeeds Lysias as king of Taxila. He sends embassy under Heliodorus, son of Dion, to Kāśīputra Bhāgabhadra, king of Vidiśā, in the fourteenth year of his reign, but the date of the embassy is uncertain. Its purpose may have been to make common cause against Strato I, whose kingdom lay wedged in between those of Antialcidas and Bhāgabhadra.
c. 123–88	Mithridates II, the Great, king of Parthia.
c. 120	Śakas expelled from Parthia and Sīstān by the Suren of Eastern Irān, who receives Sīstān as his personal fief.
c. 100	Śakas expelled from Bactria by Yueh-chi.
	Archebius succeeds Antialcidas as king of Taxila.
c. 90	Last of Greek kings of Taxila overthrown by the Śaka chief Maues, who assumes imperial title after death of Mithridates II in 88 B.C.
	After Maues the Śaka and Parthian rulers of Taxila were as follows: Vonones (c. 53 B.C.), with Spalahores, followed by Spalagadames, as his local legate. ? Hermaeus (c. 48 B.C.). Azes I (c. 38 B.C.), with Rajuvula afterwards as local legate. Azilises (c. 10 B.C.). Azes II (c. A.D. 5), with Aśpavarma, the *strategos*, as local legate. Gondophares (A.D. 19, but did not probably conquer Taxila until c. A.D. 25), with Aśpavarma, Sasan and possibly Abdagases as successive local legates. Pacores (c. A.D. 50), with Sasan as local legate.
c. 77	Liaka Kusulaka, father of Pātika, satrap of Chukhsa.
58	Initial year of era 'of Azes'.
c. 54	Amyntas, king of the Paropamisadae, with capital at Kāpiśī.
c. 53	Vonones, Suren of Eastern Irān, assumes imperial title left vacant by death of Maues.
	The suzerainty of Vonones is acknowledged by Śpalahores (Śpalyris), contemporary ruler of Arachosia, and by his successors, Śpalagadames and Śpalirises. It is also acknowledged at Taxila, where Śpalahores and Śpalagadames probably acted as Vonones' legates.
c. 49	Hermaeus succeeds Amyntas in the Paropamisadae.
	Death of Śpalagadames.
	Soon after 49 B.C. Hermaeus may have taken possession of Gandhāra and Taxila and held them until they were reconquered by Azes I ten years or so later.
c. 45	Śpalirises asserts his independence, and adopts title of 'great king', conferring the same title on his son, Azes I.
c. 40	On death of Vonones Śpalirises assumes imperial title.

B.C.	
c. 38	Azes I succeeds his father Śpalirises as emperor, and proceeds to occupy Taxila and the Western Panjāb, and to wrest the Eastern Panjab from the Greeks of Śakala. Later, he extends his conquests eastwards as far as Mathura, and across the Indus to Gandhāra and, perhaps, to the Paropamisadae, where the death of Hermaeus takes place, *c.* 30 B.C.
	Satrapy in Eastern Panjāb established under Rajuvula, a member of the ruling family of Chukhsa. Later he extends his satrapy to Mathurā and Taxila and assumes title of 'great satrap'. Pātika becomes 'great satrap' of Chukhsa.
c. 30	Kharahostes, son of Arta, satrap of Chukhsa. Approximate date of the Lion Capital of Mathurā.
c. 17	Death of Rājuvula. His son, Śodāsa, succeeds him as great satrap at Mathurā, and Bhadrayaśa as *basileus* in the Eastern Panjāb. Indravasu (Indravarma?) may have succeeded him in Western Panjab.
c. 10	Azilises succeeds Azes I.
A.D.	
c. 5	Azes II succeeds Azilises. Aśpavarma the *strategos*, son of Indravarma of Guraaa (Bajaur), is probably local ruler at Taxila.
c. 19	Gondophares becomes Suren of Eastern Irān.
c. 25	Gondophares defeats Azes II and establishes his capital at Taxila, retaining Aśpavarma as his legate. Other local rulers, probably in the Western Panjāb, under Gondophares were Sasan and Abdagases, his titular nephew.
	Gondophares afterwards extends his conquests to Gandhāra and the Paropamisadae. Zeionises satrap of Chukhsa (*c.* A.D. 36).
c. 40	Visit of St Thomas, the Apostle, to the court of Gondophares.
c. 44	Visit of Apollonius of Tyana to Taxila.
c. 50	Pacores succeeds Gondophares.
	The Kushāns under Kujūla Kadphises extend their power from Bactria to the Paropamisadae.
c. 60	V'ima Kadphises, son of Kujula Kadphises, conquers Gandhara and Western Panjāb, pushing the Parthians farther and farther down the Indus valley. To this period (between A.D. 60–80) belong the reigns of Sasan, Sapedanes and Satavastra, who claimed in all probability to be successors of Pacores, though their territories were now confined to the Lower Indus valley and neighbouring tracts.
c. 70	Approximate date of *The Periplus of the Erythraean Sea*.
c. 78	Beginning of Śaka era. It probably marks the establishment of the Kushān empire in India by V'ima Kadphises; others think by Kanishka.
	V'ima Kadphises introduces gold in place of silver currency. The new gold coins are on the same standard as the Roman aurei.
	Taxila inscription of year 136 of 'Azes' era; the Kushān king referred to is probably V'ima Kadphises.
c. 80	City of Taxila transferred from Sirkap site to Sirsukh.
c. 100	Approximate date of Soter Megas, to be identified, probably, with the viceroy appointed by V'ima Kadphises to govern India in his absence.
c. 128	Accession of Kanishka I.
c. 151	Accession of Vāsashka.
In or after 156	Accession of Kanishka II, with Huvishka as regent.
c. 169	Accession of Huvishka.
In or before 202	Accession of Vāsudeva.
c. 230	Approximate date of Vāsudeva's death.
	About this time Ardashīr-i-Bābegān, founder of the Sasanid dynasty of Persia (A.D. 226–40), overcomes the Kushāns of Bactria and proceeds to invade the Paropamisadae, Gandhara and the Western Panjāb.
	From now on the Kushān power south of the Hindu Kush declines. Among the later Kushān rulers of the third and early fourth centuries A.D. were Kaneshko (? Kanishka III), Vāsu (? Vāsudeva II), Vāsudeva (? III), Bacharaṇa and Bhadra.
320–21	Initial year of the Gupta era and first year of the reign of Chandragupta I.

A.D.	
c. 350–358	Shāpur II invades Kābul valley, Gandhāra and Panjāb, and establishes Persian power at Taxila.
	Influx of Sasanian copper money at Taxila during the reigns of Shāpur II (A.D. 309–80), Shāpur III (384–6) and Varahrān IV (386–97).
c. 390	The Kushāns of Bactria are forced by pressure of the Hiung-nu (= Jouan-Jouan) to move south of the Hindu Kush. Under their chief, Kidāra, they wrest the Paropamisadae, Gandhāra and Western Panjāb from the grip of the Sasanians, and establish themselves as paramount rulers in those areas until c. A.D. 460.
	Kidāra is followed by Piro and Varahrān.
	The rule of the Kidāra Kushāns is marked by greatly increased prosperity and a remarkable outburst of artistic activity which finds expression in the splendid achievements of the Indo-Afghān School at Taxila, Hidda and other places. It coincides also with the most brilliant epoch of the Imperial Guptas, the arts of which were much inspired by the Indo-Afghān School.
c. 400	Fa Hien, Chinese pilgrim, visits Taxila.
c. 460–470	Invasion of Ephthalites or White Huns, who sweeping over Gandhāra and the Panjāb carry fire and sword wherever they go.
	Wholesale destruction of Buddhist monasteries and stūpas at Taxila, which never again recovers from this calamity.
c. 495	Accession of Toramāṇa to the Ephthalite throne. His capital is established at Śākala.
c. 510	Mihiragula succeeds his father Toramāṇa. Decline of Hūṇa power.
c. 520	Sung Yun, Chinese pilgrim, in Gandhāra.
c. 525	Mihiragula is defeated by Yaśodharman.
629–645	Hsüan Tsang, Chinese pilgrim, in India. At this time Taxila, still desolate and half-ruined, is a dependency of Kashmīr and remains feudatory to that State during the rest of the seventh and the eighth centuries A.D., when Kashmīr was still at the height of its power. In the ninth century Taxila passes under the dominion of the Turkī Śāhis of Kābul, who traced their descent from Kanishka.
870–871	Kābul captured by Yā'kūb Lāis, and the capital of the Turkī Śāhis is transferred to Ohind (Udabhāṇḍapura) at the crossing of the Indus.
c. 880	Approximate date when Hindu Śāhis replaced Turkī Śāhis at Ohind.
	The first of the new dynasty seems to have been Spalapatideva, followed in the tenth century by Sāmantadeva and Vakkadeva.

Chapter 3. BHIṚ MOUND

Areas excavated and stratification

THE EXCAVATIONS which will first claim our attention are those on the Bhiṛ Mound—the earliest of the three city sites. In this city much of the digging has consisted of trial trenches[1] and pits, most of which have been filled in again; but a substantial area (Pl. 2) was opened up near the middle of the old city, about five minutes' walk to the south of the Archaeological Museum and a little to the north of the village of Bhiṛ Dargāhi, and a smaller plot a little to the west of it (Pl. 9). The remains unearthed in these two areas, as well as in a number of trial trenches, disclosed four strata, which starting from the top we shall designate strata I, II, III and IV. Of these, the first stratum now consists of only a few fragmentary rubble foundations scattered here and there on the surface of the mound. Of the superstructures and even of the floors belonging to this first stratum all traces have vanished, and the only interest attaching to these scattered remnants is that they prove the existence on certain parts of the site of later structures which time has now all but obliterated. It should be emphasised, however, that the remains of these later structures occur only in a few places on the site, and that there is no reason to suppose that they covered the whole of it. The probability is that some of the buildings belonging to the second stratum were standing right up to the time of the city's destruction in the early part of the second century B.C. No doubt there was similar overlapping in the buildings of strata II and III; that is to say, that some structures of the third stratum were still standing when the later structures of the second stratum were erected; for in the case of these upper strata there is no reason to suppose either that the site lay waste for any considerable period between the third and second settlements or that the whole city was rebuilt at one and the same time. It may have happened that the city was destroyed *en bloc* by an earthquake or was burnt to the ground, but it is just as likely that the buildings were destroyed piecemeal and reconstructed at different times. In regard to the third and fourth strata, however, there are strong reasons for supposing that all the earlier buildings were destroyed before those of the subsequent stratum were built.

Depth of succeeding strata

As to the depths of the strata, the foundations of the second were found to descend to an average depth of about 4–6 ft. below the surface; those of the third to a depth of 9 or 10 ft., though occasionally somewhat deeper; and those of the fourth to a depth of 14–16 ft. Virgin soil was reached throughout the site at a depth of between 16 and 20 ft. As a rule the foundations descend some 2 or 3 ft. below

[1] Trial trenches were sunk in the surface of the Bhiṛ Mound in the form of a network covering virtually the whole of the mound north of the village of Bhiṛ Dargāhi. The position of the trenches, now filled in, is shown on the mound itself by pairs of square masonry pillars set at the two ends of each trench in such wise that two parallel lines drawn between give the exact location of the trench.

the floor-level, but in some cases, especially in the third settlement, substantially deeper. Being predominantly of beaten earth, the floors are often difficult to distinguish, but there are generally some patches of stone pavement, or surface drains, soak-wells or other features to help in determining the levels. Thus, to take but one example, in Blocks A and B, at the north-west corner of the eastern group, the floor-level of the third stratum, about 6 ft. below the surface-level, is established by (*a*) patches of rough stone pavement in squares 31–32·63′–65′ and 24·66′; (*b*) an open drain in square 29·66′; (*c*) two store-jars sunk as usual in the floor, in squares 29·60′ and 31·60′; (*d*) soak-wells in squares 27–28·65′–66′.

As already noted in chapter 2, the fourth (lowest) settlement probably dates from the fifth century B.C., though it may have been earlier; the third settlement was already in existence at the time of Alexander's invasion (fourth century B.C.) and probably survived for a generation after the Maurya conquest; the second was contemporary with later Maurya rule (third century B.C.); and the first (uppermost) with the autonomous period and the invasion of the Bactrian Greeks (second century B.C.).[1]

Changing character of rubble masonry

The buildings in all four strata are of rubble masonry, but there are noticeable differences in the character of the rubble. In the top stratum, it is usually of very rough limestone mixed with kañjūr, though sometimes it is composed mainly of kañjūr with a little limestone only. A specimen of the rougher kind may be seen at the top of the picture in Pl. 5, *a* (squares 9·61′–62′); below it, in the same picture, is a typical section of walling of the second stratum; and below this, again, but separated by a narrow break, is a section belonging to the third stratum. At the bottom of the picture, a few stones only are visible of the fourth stratum.

Speaking generally, the walls in the second stratum are the neatest and most compact on the site. For the most part they are built of limestone and kañjūr combined, but sometimes of limestone only, and sometimes of kañjūr only. Thanks to its soft porous nature, the kañjūr affords a remarkably good adhesive bed for mud or lime plaster and helps greatly to bind and solidify the masonry; and that, no doubt, is why it became more fashionable in this period. In the third stratum (cf. Pl. 5, *c*, *d*) the masonry is generally somewhat rougher and looser than in the second, though exceptions to this rule may easily be found. In the fourth stratum it is invariably distinguished by its rougher and more massive character (Pl. 5, *b* at bottom). Indeed, the difference in this respect between the fourth and third strata is so marked that there can be little doubt that a substantial interval of time intervened between the two settlements.

Plaster

From first to last these rubble walls were finished off both externally and internally with a thick coating of mud plaster, either plain or whitewashed. In the course of the centuries most of this plaster has perished, but here and there in the

[1] I do not take into account the few stray coins of Vāsudeva and other later kings dropped by accident on the surface of the mound. After the transfer of the city from the Bhir Mound to Sirkap it is likely enough that a few people may still have continued to live among the ruins, just as they live still among the ruins about Delhi.

different strata patches of it are preserved (e.g. in squares 18·58′–59′). In all these specimens the mud was mixed with chopped straw in order to bind it together. On the Bhiṛ Mound site there is no evidence of the use of lime plaster, which does not appear to have come into fashion at Taxila until after the advent of the Bactrian Greeks, and not to have been used to any extent until Parthian times.

Foundations

On ancient sites where buildings were constructed of rubble in mud and debris rapidly accumulated, there was always a difficulty about making the foundations of new houses sufficiently secure. For this reason, as we shall presently see, the foundations of some of the buildings in the Parthian city of Sirkap were carried down as deep as 18 or 20 ft. through the debris of earlier settlements below them. On the Bhiṛ Mound, foundations were never taken so deep as that, but wherever ruins of the previous stratum were visible or easy to lay bare, the walls of the succeeding stratum were generally (though not universally) built directly above them, and in the case of the third and second strata it is frequently hard to detect the dividing line between them, just as it is in many of the reconstructed brick houses at Mohenjo-daro. On the other hand, it is by no means an uncommon thing to see a narrow belt of earth or debris between the walls of two strata, showing that the later builders had been aware of the alignment of the earlier walls but were too indolent to clear away the earth that had gathered over them. In some cases, particularly in stratum III, a bed of river pebbles, sometimes as much as 2 or 3 ft. deep, is laid beneath the masonry foundations. This, however, is the exception rather than the rule, the practice being resorted to only where the masonry foundations themselves are unusually deep, i.e. where for one reason or another special provision had to be made for the stability of the superstructure.[1]

Plans and illustrations

The remains which have been opened up and of which more or less connected plans have been recovered, extend over an area of some 3 acres. The chief groups are illustrated on Pls. 2–9. In the plan of the buildings which appears on Pl. 2 those belonging to the first, third and fourth strata are distinguished by different kinds of shading, while those belonging to the second stratum are blocked-in in black. From this plan it will be seen that most of the remains exposed are in the second stratum.

General character of remains

These comprise blocks of dwelling-houses and shops, divided by streets and lanes. The lay-out is irregular and haphazard—very different, as we shall see, from the symmetrical lay-out of the later cities in Sirkap. The most important of the streets is First Street, which runs approximately north and south in a fairly straight line with an average width of 22 ft.; other streets, Second, Third and Fourth, vary in width from 9 to 17 ft. and follow winding courses. The lanes are narrower still, no more in fact than passages between the houses in which two persons would often find it difficult to walk abreast.

Streets and lanes

Here and there, for the convenience of traffic and other purposes, small open

[1] There is a good specimen of pebble foundations in Block F (East Group), square 11·58′; others dating from the third settlement are to be seen in A 2, B 3 and D 7, and another of the fourth settlement in square 22·57′ beneath Second Street.

squares were provided, and on one spot (in Lane 5, to the east of the site) there was a small curved space, obtained by setting back the wall of House Q, where pack animals could pass one another.

Excavations carried down to virgin soil in First Street revealed no earlier structures of any kind; only a deep accumulation of small boulders and river pebbles which had been used to pave the street or had been dumped there from time to time when it became necessary to raise the level. This would naturally happen when the neighbouring houses had, from whatever cause, been destroyed and what remained of them had to be levelled up and new structures raised on their ruins. This deep accumulation of stones formed, of course, a first-class foundation for the street—a foundation that was all the more necessary because the main streets do not appear to have been provided with drains and would require, therefore, to be well solidified, in order to carry off the heavy flow of water from the side-streets and lanes.

The absence of any kind of structures of an earlier age under First Street leaves no room for doubt that this street dates back to the time of the first city on the Bhiṛ Mound, and that it was maintained at an increasingly high level through each succeeding settlement. The same remark applies also to the small square S in Third Street. Here, at the south-west corner of the square, excavation revealed a rough but well-worn stone bench belonging to the third stratum, and against the corner of the wall a vertical wheel-guard of the same age. At a still lower level in the same square—about 4 ft. below the stone bench—was a patch of cobble-stone pavement dating from the fourth settlement. In this square my excavations were carried down about 20 ft. below the surface, but there was no sign of habitation below the fourth stratum. On the other hand, the subsidiary streets and lanes shown on the plan appear to go back no further than the second stratum, since wherever they have been excavated down to the lower strata, structures of some kind or other have invariably been brought to light. It is possible, therefore, that the lay-out of the original city and of the third city immediately above it may prove to have been more regular than that of the second city.

The levels of these streets and lanes present the same phenomena that are found in Sirkap and in earlier Indian cities, such as Mohenjo-daro and Harappā. That is to say, that from the time of the earliest settlement onwards there was an ever-present tendency for the level of the side-streets, lanes and houses to rise higher and higher in relation to the level of the main street, the reason being that when houses were destroyed and had to be rebuilt, there was always a certain amount of debris from the flat mud roofs, rubble walls and charred timbers which had to be disposed of, and it was usually found easier to level up this debris and either lay new foundations or else raise the old walls to a corresponding extent, rather than to remove the debris; and when this happened, the lanes alongside the houses also had their levels raised to a like extent. On the other hand, the main street, which served large sections of the town, had to be kept as long as possible at a uniform level, and it appears that this level was seldom interfered with unless the whole city had been

laid in ruins. As a result of this process of accumulation the lanes giving off from the main street rose steeply towards the east and west, and during the rainy seasons there must have been a deluge of water sweeping down from them.

Street drainage

Whether there was a systematic scheme of drainage in the city for carrying off this water is questionable. Remains of covered surface drains have survived in Fourth Street and in Lane 1, and it is likely enough that similar drains once existed in the other lanes and side-streets, but there is no evidence that they connected up with a larger drain in First Street. No trace of any such drain has been found in First Street or in the Main Street of Sirkap, where the conditions were very much the same, though in the latter city there was a culvert at the north gate for carrying flood-water down the steep declivity. The probability, therefore, seems to be that, so far as the main streets were concerned, they had to serve as water courses during the rainy seasons—which was an added reason for their levels being kept substantially lower than those of the adjoining houses and side-streets.

Sewage and refuse

The drains to which I have referred as running down Lane 1 and Fourth Street were open surface drains constructed rather roughly of stone. They were meant, it must be emphasised, exclusively for rain-water, not for sewage. For the disposal of sewage each house was furnished with one or more soak-wells, which will be described later. Similar soak-wells were also provided for the public convenience in some of the small open squares alluded to above. One of them, for example, can be seen on the plan (Pl. 2) in the south-eastern corner of Square S, three in Second Street and another in the north-western corner of Square W.

For the disposal of ordinary refuse large bins appear to have been provided in the public squares and streets, and it may be assumed that they were regularly cleared by the town sweepers. A good example of such a bin is to be seen on the east side of Square S. It measures some 9 ft. by 5 ft. and is built of the usual rubble. When brought to light it was found filled with bones, broken pottery and such like refuse. Evidently these public bins were meant for the refuse, not only of the streets, but of the near-by houses as well, since the soak-wells in the latter were specially intended for liquid sewage.

Wheel-guards

Before we leave the streets, there are two other features to be noticed. One is that in the streets where there was vehicular traffic wheel-guards were provided to protect the corners of houses from damage by passing carts or chariots. They consisted of rough stone pillars set up at the corners of the buildings, the whole pillar being about 5 ft. in height, some 2 ft. of which were buried in the ground. There is a notable example of such a wheel-guard at the north-east corner of Square S, at the point where Third Street debouches into it, and another in Second Street.

Closing of private lanes

The other feature is that some of the smaller lanes, which seem to have been the private property of the adjoining houses, were sometimes closed by a cross-wall (e.g. Lane 2, west end) which converted them into cul-de-sacs and prevented the public from using them as short-cuts between the bigger streets.

Typical houses

To discuss all the houses on this site in detail would be tedious and is in fact unnecessary. It is enough to consider two or three representative examples, of

which the best perhaps are the Houses H and K near the centre of the plan, since they are somewhat more regular in their lay-out than the rest, and their limits are well defined by the streets and lanes around them. Before, however, examining them in detail, it will help us to a clearer understanding if I sum up such general facts about the domestic architecture on the Bhir Mound as can be gleaned from all the remains taken together.

House planning

To begin with, the buildings, like the streets, are much more irregular in plan than those in the later cities in Sirkap. The principle underlying their design is the common oriental one of the open court with rooms on one or more sides, but there is so much diversity in the application of this principle and the plans are so chaotic, that it is often impossible to determine where one house ends and another begins. Take, for example, the large block of buildings, MN, bounded on the west and east by First and Fourth Streets and on the north by Lane 3. In this block there are over sixty rooms and courts, and it may be taken for granted that the block comprised at least two or three houses, if not more; but which were the particular dividing walls between the several houses is a puzzle that the reader can solve almost as well as the excavator. Fortunately, not all the plans are so indeterminate as this one. In other cases (e.g. in Houses C, D, H, K and Q) the boundaries of the houses as well as their interior plans are sufficiently clear to leave little doubt that this must have been a well-to-do quarter of the city, occupied by people of means. The average ground area of this class of house runs to about 3,600 sq. ft., of which some 700 ft. were taken up by open courts, leaving some 2,900 ft. for rooms. Assuming that there were two stories (and there were certainly not less), this would give a room space of 5,800 sq. ft. in all. On the ground-floor, the rooms, which numbered some fifteen to twenty, were small—rarely covering more than 150 sq. ft. each, and often not more than half that area. It must be remembered, however, that among the wealthier classes many of the lower rooms would probably be occupied by slaves or dependants, and for this reason they were smaller than the upstairs rooms where the family would live. This is an observation which applies equally to the well-to-do houses of prehistoric times in Mohenjo-daro and Harappā, and we shall see presently that it also applies to the later houses in the city of Sirkap. On the other hand, we must also remember that living-rooms in the East are generally smaller than they are in the West, and this was probably true of ancient no less than of modern times. It remains to add that the rows of chambers facing on to a public thoroughfare probably served in most cases as shops, just as they did in the later cities of Sirkap. Thus room 7 of Block D overlooking Second Street (square 17·60′) was evidently a shell-worker's shop, as I found in it many pieces of cut shell and mother-of-pearl.

As a rule, this type of well-to-do house was provided with two courts, one of which, it may be assumed, was more private than the other, but both courts were usually so placed that easy access to them could be obtained from the street or lane, and through them to the various rooms which gave off from them or from passages connected with them. The courts, being open to the sky, were usually paved

Floors and pavements

either with rough flags or with pebbles from the river bed,[1] and pavements of small cobble-stones were also laid in bathrooms, wash-houses and open passages. In a few cases the lower rooms had floors of *bajri* rammed in with mud, but for the most part the floors were of nothing better than beaten earth, and unless the earth happens to have been burnt and half converted into terra-cotta, it is often difficult to distinguish the floors from the soil above or below them. This difficulty is all the greater because the levels of the ground-floor rooms are by no means uniform. In some houses, both courts and rooms are on the same level; in others, the rooms are on a level with the outside street or even below it, while the court is raised some feet above it; in others, again, some of the rooms are on the same level as the court, while others are several feet lower. In cases such as the last, the lower rooms, as viewed from the court, were in the nature of basements and were lighted by windows in their outer walls overlooking the lanes. Steps ascending from one level to another are rare, because, like those ascending to the upper floors, they were usually no doubt made of wood. Where they do exist, as in Block A, room 8 (square 26·66′), they afford useful evidence in determining the precise levels of the floors.

Window slits

For safety's sake and to ensure privacy, windows in ground-floor rooms which opened on to a street or square took the form of narrow slits, through which inquiring eyes would find it difficult to peer. Examples of these slits, which no doubt served also for carrying off water, are to be seen in Pl. 6, *a*. In this case, both upper and lower windows probably belong to the second settlement, the difference in height between them being accounted for by the terracing of the ground-floor. In another example, in a part of the site not included in the plan on Pl. 2, there are two of these slits, one directly above the other, in the same wall, the upper one being 6 in. and the lower one 10 in. wide. In this case the duplication of the slits is probably to be explained by the rebuilding of the structure at a higher level, the difference in the levels being just over 2 ft. In a third example, in square 36·30′, the slit is associated with a drain inside the room, and evidently served to discharge water into the street as well as to admit light. Windows of precisely the same form are found in the prehistoric houses in Mohenjo-daro and Harappā, where they were used particularly for bathrooms on the ground-floor. Besides these narrow slits, which were usually placed at floor-level, there were presumably larger windows which opened out into the private courts or light shafts, just as there were in the older Indus cities, but all trace of these larger windows, which would of course be placed several feet above floor-level, has vanished.

Elevation of houses

How these houses appeared in elevation can only be surmised. Probably they were much like the houses of modern towns in the North-West, with their mud-plastered walls, wooden balconies and flat roofs rising to unequal heights. That the roofs in olden days were flat and covered with earth is sufficiently demonstrated both by the complete absence of any kind of tiles on the site and by the layers of earth, sometimes half burnt and mixed with charcoal, which had evidently fallen from the roofs as they collapsed. In the modern unwalled villages of the Hazāra

[1] E.g. in F2 (stratum III).

country, walls of houses overlooking the streets usually present a more or less blank appearance, broken only by heavy doors and small shuttered windows which can be barred and defended against intruders; but in walled or protected towns, where the danger from robbers and dacoits is relatively small, most houses are provided with large balconied windows overlooking the streets. This was probably the case also in ancient Taxila; but there is no evidence at present to prove it, since we have neither any actual remains of the upper stories nor any pictorial representations of them, such as are to be found among the reliefs of Sāñchī, Bharhat, etc. Two or three centuries later, it is true, we find projecting balconies figured in the reliefs of the Gandhāra School, and it may be that these represent a traditional method of building in the North-West similar to that in vogue in Hindustān and Central India. We must be cautious, however, about accepting the evidence of these sculptures. The artists of Gandhāra naturally drew much of their inspiration from the older schools of Buddhist art in India proper, and nothing is more likely than that the architecture they portrayed—which generally bears an unreal, imaginative appearance—was a distant copy of Indian prototypes.

Soak-wells As already noted, house refuse appears to have been disposed of by throwing it into the municipal pits or bins provided in the public streets or squares. Sewage, on the other hand, was thrown down the private soak-wells which were maintained in every house. As a rule there was one such soak-well in each courtyard and one for the privy, bathroom, wash-house or kitchen. These soak-wells are peculiar to the settlements on the Bhiṛ Mound, where they go back to the earliest times. With one exception,[1] they are not found at Taxila after the coming of the Bactrian Greeks. They are of several kinds. The simplest and doubtless the earliest form is a circular shaft about 2 ft. 6 in. to 3 ft. in diameter and sunk to a depth of 15–25 ft. This type is without any lining, but in order to prevent the walls caving in, the well was filled with rough pottery vessels (*loṭās*, *ghaṛās*, and the like) turned upside down, between which sewage could percolate and soak into the earth. Soak-wells of this type were in use only during the earliest settlement on the Bhiṛ Mound. In the later settlements the wells were lined with limestone and kañjūr to a depth varying from 8 to 18 ft. or more, below which the shaft narrowed and was left unlined. Their inner diameter varies from 2 ft. 2 in. to 2 ft. 10 in. at the top. This second type of semi-pakka, semi-kaccha well was sometimes filled with vessels, sometimes not. From one of them, in square 29·33′, 164 vessels were taken out—60 broken and 104 intact—comprising *ghaṛās*, *cāṭīs*, *loṭās*, coolers and pots of various other forms (cf. *A.S.R.* (1920–1), Pl. XV, nos. 9, 10, 15, 17, 19, and 'Pottery', ch. 23, nos. 26, 27, 32). These vessels filled the whole shaft of the well from the top to a depth of 12 ft. 6 in. below the stone lining, that is, to a depth of 25 ft. or thereabouts from the surface. The third type of soak-well, partly lined in the same way with stone masonry, is rectangular in plan instead of circular, but inasmuch as only one specimen of this type (square 25–26·34′)[2] has been unearthed, it may be

[1] In the Greek stratum in Sirkap.

[2] It measures 2 ft. 6 in. by 3 ft. and belongs to the latest settlement.

inferred that the square form was not found as satisfactory as the round one. The fourth type, instead of being stone-lined, is constructed of earthenware rings. Only four specimens of this particular type have been found, three of which are in the northern section of the area west of First Street. A good example is the one illustrated in Pl. 6, *b*, which appears to be referable to the third stratum, though it may be later. It stands at the north-west corner of square S and is composed of fourteen well-baked rings, of which nine at the bottom are about 25 in. in diameter by 6 in. in height, while the five at the top, representing perhaps a later addition, are of the same height but only 21 in. in diameter. The fifth type is constructed of large earthenware store-jars (cf. 'Pottery', ch. 23, no. 1) set one above the other, with holes knocked through their bottoms (Pl. 6, *c*). It is noteworthy that these soak-wells frequently occur in pairs in close juxtaposition one to the other. The explanation of this may be that when one well was full, it was closed in and a new one opened alongside. But it may be that they were intended to be used alternately, one being left to dry while the other was in use. The frequent presence of large water-jars found *in situ* close by them suggests that many of them were located in bathrooms and kitchens. Soak-wells constructed of a succession of earthenware vessels have also been found in Mesopotamia.

Surface drains in the houses, like those in the streets and lanes, were provided, not for sewage, but as gutters for carrying off the rain-water from the open court-yards into the streets. As a rule, they were constructed of limestone and kañjūr, like the unusually large drain belonging to the third stratum beneath House K. In the second stratum, slabs of slate were sometimes used for lining the drains as well as for paving the bathrooms. A good example is the drain in Court C, behind the Pillared Hall (Pl. 6, *d*, and p. 100 *infra*). Smaller drain-pipes and open gutters were made of earthenware. Specimens from the second settlement on the Bhiṛ Mound are described under 'Pottery', ch. 23, no. 209 (=Pl. 127, no. 209) and no. 214 (=Pl. 127, no. 214). The drain-pipes were provided with spigot-and-faucet joints. Surface drains

Apropos of sanitation, it should be noted that there were no wells within the city from which water could be drawn. Whatever water was used by the house-holders—and it could not have been much—had to be drawn from the Tamrā nālā outside the city or from wells in the low-lying suburbs. At the present time, the water-level is 90 ft. or more below the surface of the Bhiṛ Mound, and in those early days no wells were made big enough or deep enough to reach it. But by going outside the city to the banks of the Tamrā nālā, they would not have had to sink their wells more than 30 ft. This complete absence of wells, both private and public, within the city walls, is in marked contrast with the abundance of them—one or more in every fair-sized house—which distinguishes the prehistoric city of Mohenjo-daro. Evidently water played a much less important part in the lives of the citizens of Taxila than it did among the earlier dwellers by the banks of the Indus. Water supply

We have already remarked on the danger which threatened all buildings in the later settlements on the Bhiṛ Mound owing to the insecure methods of construction,

which, as time went on, became greater and greater through the increasing difficulty of providing sufficiently strong foundations. How very real this danger was is demonstrated by the numerous support pillars, which even in relatively small rooms were erected to sustain the roofs. These pillars were no doubt of wood and have naturally disappeared in the course of the ages, but their stone foundations still remain and afford striking testimony of the difficulties with which the builders in the later settlements had to contend. Sometimes the pillars were in the centre of the rooms, sometimes to one side or against the walls—wherever, in fact, the need of additional support had become manifest. To prevent any risk of sinking, a circular shaft from 2 ft. 6 in. to 3 ft. 6 in. in diameter was first sunk in the ground and carried down until reasonably firm ground was reached, which might be at a depth of 5, 10, 15 ft. or more below the floor-level. This shaft was then filled with rubble and limestone blocks, sometimes on a foundation of river pebbles (Pl. 5, *c*), and on top of them was set a heavy limestone block to serve as a base for the wooden pillar above. Typical examples of these pillar foundations may be seen illustrated in Pl. 5, *c*, *d* and Pl. 7, *d*.[1] These particular examples, however, are relatively shallow ones, deeper specimens not having been exposed to their full depth. In Pl. 5, *d*, it will be observed that the pillar foundation is located underneath a wall. In this case the foundations may belong to a pillar which stood at this spot before the wall above was erected; on the other hand, it may be merely that the builders of the wall encountered a disused soak-well at this point and filled it up with boulders to prevent sinkage.

Pillar foundations

In other cases, the foundations for the supporting pillars appear to have taken the form, not of circular or square piers, but of short lengths of walling over which the weight of the wooden pillar or pillars could be distributed by means of timbers laid flat on its top. Such walls are found in many remains throughout the site.

House K

To return, now, to the Houses K and H in the second stratum, which may be taken as typical examples of them all. The former is bounded, as will be seen from the plan on Pl. 8, by First Street on the east, Third Street on the north, Second Street on the west and Lane 2 on the south. Its west side, unfortunately, has perished, but not to such an extent as to leave any doubt about its plan. It comprised two small courts (nos. 1, 2) and some twenty-four small rooms on the ground-floor, with presumably a number of rooms on the first floor. The principal court is the one to the east (no. 1), with chambers on three sides of it (nos. 3, 18–22) and verandas seemingly along its north and south sides. Whether the range of chambers on the east frontage (nos. 23–7) served as living-rooms or shops is questionable. If they were living-rooms belonging to the house, they would naturally have connected with the rooms adjoining them on the west (nos. 17–22), but if, as seems more likely, they were shops, they would no doubt be cut off from the rest of the house. The second court (2) is in the north-west corner, where Second and Third Streets meet. It has rooms on two sides only, viz. nos. 4, 5, 7 and 8, but there is another

[1] There is a particularly good example in D5, which is circular below, and square at the top. The circular part may date from the third settlement, the square from the second.

small apartment, possibly for the doorkeeper, in its north-east corner. Besides the rooms which opened on to the two courts, there was also a range of rooms (nos. 9, 12-17) on the south side of the house overlooking Lane 2, from which they drew their light and air. Access to the rooms was gained through the chambers 18 and 19 or from Passage 6, which connected directly with Court 1. Thus direct light and air were provided for every room in the house except the tiny ones, nos. 10 and 11, which, in any case, were too small to serve as living or sleeping rooms.

In Court 1 are two circular soak-wells for the disposal of sewage, one, to the east, constructed of lime and kañjūr stone; the other, to the west, of terra-cotta rings.[1] The latter, however, is broken away at the top, and it is possible that it may have belonged to an earlier house of the third stratum, which existed on the same site, and that it had been filled before the house we are discussing was erected. The drain which passes under rooms 3 and 4 certainly belonged to this earlier structure, and it looks as though this drain might have been designed to discharge into the soak-well in question, in which case the soak-well must also date back to the earlier period. There is another soak-well also in chamber 15, and by its side the remains of some rough stone flooring and of a platform running north to south on the west side. It may be inferred, however, that this chamber, which connected with Passage 6, was used for general purposes—probably as a bathroom or wash-house.

Of the stairway leading to the upper story there is no trace. The most convenient position for it would have been beneath the veranda on the north or south side of the court, or in one of the rooms—perhaps no. 20—round the court. The fact that the stairs in this and every other house on the site have perished, suggests that they were usually made of wood.

The two small circles which appear on the plan in room 17 represent two large earthenware store-jars, which were brought to light beneath the floor of this room. Like the drain under rooms 3 and 4, they belonged to the previous stratum, the floor-level of which coincided with their necks, the usual practice being to bury such store-jars to that extent in the ground.

House H also had two courts (nos. 1, 15) on the north side of the house, which were entered from Lane 2; and in this house also there was a row of chambers, which probably served as shops, facing on to First Street (nos. 21-4), and another row (nos. 7-10, 17, 18) overlooking Lane 1 on the south. In the court to the east (no. 15) are two small chambers: one at the south-east corner; the other, a little larger, at the north-west corner. The latter, which contains a soak-well, was no doubt used as a bathroom. Leading from the south-west corner of this court is a passage which gave access, on one side, to rooms 10, 11 and 12; on the other, to rooms 17 and 18. In the middle of room 17 are the remains of a circular pillar, and in room 18 the remains of a square one, both of which were used to support the roof. In the western court are the fragments of some later walls, added apparently in order to screen the north-west part of the court, where there is a soak-well, and perhaps to convert it into a bathroom. In room 2 there is another soak-well, which

House H

[1] The rings have a diameter of 2 ft. 6 in. and an average depth of 6 in.

is partly engaged in the wall and was evidently constructed before the wall itself, though it appears to be referable to the same period of occupation. In the centre of the same room is the square base of another support pillar.

Pillared Hall or temple and other buildings

Of other ruins belonging to the second stratum the only group that need be noticed in detail is that situated to the west of the remains described above and not far from the modern station road. The plan of this group will be found on Pl. 9. It covers an area of about 180 ft. north to south by 170 ft. east to west, and is virtually enclosed by streets or lanes on all sides. The group comprises two blocks —a larger to the north, a smaller to the south. Between them, and all but separating them one from another, runs a narrow lane (no. 4) with an open square at its western end. The larger block, with which we are chiefly concerned here, comprises two open courts, C and D, a large pillared hall on the western side of Court C, and some thirty rooms of varying dimensions, but for the most part somewhat larger than in the other houses. Besides the lanes which enclose the block on its four sides, there is a short cul-de-sac passage, no. 5, which penetrated to the middle of the building on its eastern side and provided additional access to the interior as well as additional light and air to the rooms overlooking it. That most of the building was used for dwelling purposes, its plan, which corresponds closely with the plan of other houses, sufficiently demonstrates; but a unique feature is presented by the Pillared Hall A on the western side. Of the purpose of this hall we cannot be altogether sure. If the house was occupied by an official or other person of high status—and it was certainly quite big enough for that purpose—the hall might have been used as a *diwān* for the reception of guests, like the *diwān* in the later palace in Sirkap, though in that case it is perhaps hardly likely to have been located where it is. The position which it occupies alongside the street suggests, on the analogy of many of the houses of Sirkap, that it served rather as a shrine of some sort, and if this was so, the house attached to it may well have been occupied by the priests and their attendants or disciples. This seems the more likely because in the debris of this building, as well as among the ruins on the farther side of the lane to the west, were found a large number of terra-cotta reliefs representing a male and female deity standing side by side and holding hands (cf. 'Terra-cottas', ch. 24, nos. 35, 36). Such stamped reliefs were made to be sold or presented to worshippers at a shrine and to be kept by them as mementos or talismans, just as figurines of *devas* or *devīs* are made and sold to-day in shops outside many an Indian temple. In this case it seems highly probable that the structure referred to on the opposite side of the lane was just such a shop, and this would explain why many of these plaques were found in it. If I am right in drawing this inference, then the Pillared Hall acquires an added interest as being the earliest Hindu shrine, by several centuries, of which any remains have come down to us. Nor can the fact that there is nothing whatever in the design of this building to connect it with later Hindu temple architecture be used as an argument against this hypothesis; for the beginnings of that architecture are at present almost a closed book to us. The earliest shrines with which we have hitherto been acquainted go back no further

than the Gupta Age and their designs are such that it is difficult to escape the conclusion that they were largely inspired by classical prototypes. It may be, therefore, that in this early period, before Greek influence had made itself felt in the Panjāb, no standard type of temple, such as was to become familiar in later times, had yet been evolved.

Plan of Pillared Hall

In shape, the Pillared Hall is oblong, measuring 59 × 24 ft. with three square piers down its middle (cf. Pl. 7, *b* and *A.S.R.* (1920 1), Pl. XIV). Its major axis lies approximately north and south, and on this axis the three piers are ranged in a line at intervals of 11 ft., the middle one standing in the centre of the hall. The walls of the building are of the usual rubble masonry largely compacted with shale, and are standing to a height of some 5 to 6 ft.; they are not pierced by any openings. The three piers, which are not quite as high as the walls, are also of rubble masonry—the middle one 3 ft. 9 in., the outer ones 3 ft. 6 in. square—each surmounted by a single massive slab of limestone approximately square in shape and some 5 to 8 in. in thickness, but very rough and uneven. The slabs belonging to the two outside piers show signs of having been calcined and split by fire; on the central one there are no such signs. At a depth of 4 ft. 9 in. below the top of the enclosing walls there came to light the remains of a floor of hardened clay, which in places had been half-burnt to terra-cotta. The presence of this floor led me at first to the conclusion that it marked the actual floor-level of the hall, and that so much of the walls and piers as projected above this floor (i.e. between 4 and 5 ft.) formed part of the superstructure of the building, not of the foundations. Further excavations, however, which I have since carried out on this site have caused me to revise my views. I now incline to think that the patches of burnt flooring belonged to an earlier edifice on the same site, which was left undisturbed when the later building was erected on the top of its debris, and that the piers and walls which we now see were only the foundations of this later building, the floor-level of which would have coincided with the upper surface of the stone slabs alluded to above and would thus have been about a foot below the present top of the surrounding wall. As we have already seen, square or round piers of stone were habitually used throughout the whole period of the Bhiṛ Mound occupation as the foundation for pillars to support the roof. It was the burning of these pillars, which were no doubt of wood, together with the roof timbers that accounts for the calcined condition of the stone slabs on which they rested and of the tops of the walls. The fire which destroyed this hall and evidently consumed the rest of the building must, to judge from the condition of the exposed stonework, have been a particularly fierce one.

Character of masonry

The masonry used in most of the walls in this building is limestone rubble with very little kañjūr, but there are places where the walls have been extensively repaired in the latter material. In some of the walls may be seen long horizontal breaks, which might naturally be thought to mark the lines where timbers were originally let into the stonework in order to distribute the weight of the rubble, just as we shall see presently that they were sometimes let into the diaper masonry

of later buildings such as the apsidal temple in Sirkap. But a difficulty in the way of this hypothesis is that the walls in which these breaks occur were below the floor-level of the building, and consequently any timbers inserted in them would quickly have been attacked and destroyed by white ants, unless specially protected. Probably the true explanation of these breaks is that the walls in question belong, like the flooring referred to above, to an earlier structure which had been built at a lower level on the same site, and that when first constructed they were above ground-level, not below it, being converted into foundations only when the level had been raised by some 4 or 5 ft.

Pavements and drain

In Court C, behind the Hall of Pillars, patches of cobble-stone pavement were brought to light together with a deep surface drain (Pl. 6, *d*), which runs parallel to the chamber wall on the south side of the court and then turns south to discharge into Lane 2. The bottom and sides of the drain are lined with large thin slabs of slate (a stone of which many deposits occur in the Hazāra district), and it may have been covered also with slabs of the same material. On the north side of the court is a fragmentary pavement of slate laid on a bed of *chunam* plaster—probably all that survives of a bathroom which once stood at this spot.

Ablution tank (?) and foundations for roof supports

The purpose of the square tank-like erection in room B4 is uncertain; it may have served as an ablution tank, or possibly as a fire-pit. Evidence of the insecurity of the structure is again supplied in this house by the presence of foundation piers in several of the rooms—notably in rooms B1, E1 and E2—which were intended to sustain supporting pillars for the roof. In the last-mentioned room there are no less than four such piers (one standing free and three against the wall), and we may infer that in this case the dilapidations must have been more than usually serious. It was probably for the same purpose—i.e. to provide foundations for the roof supports—that short lengths of walling were built in this room and in E2, E3, B2 and B5. In the house on the other (south) side of Lane 4, supporting piers are found in rooms F1 and F2 and soak-wells in F3 and F4. Near the latter were a number of broken slabs pointing to the existence of a bathroom.

From the photograph on Pl. 7, *c*, it will be seen that the floor-level of these buildings was not far below the present surface of the Bhir Mound, and there is no evidence of any subsequent buildings having been erected on this part of the site. We may assume that they were probably burnt down at the time when the city was sacked by the Bactrian Greeks, that is, in the early part of the second century B.C.;

Minor antiquities

and this date is confirmed by the general character of the minor antiquities found in them, which are such as we should expect in the third and beginning of the second century B.C.

Among these were the numerous stamped terra-cotta tablets to which reference has already been made ('Terra-cottas', ch. 24, nos. 3, 9, 17, 18, 19, 20, 28, 35); two terra-cotta figurines of pot-bellied dwarfs (*ibid.* nos. 40, 41); the mould of a grotesque figure (*ibid.* no. 44); the fragment of a female dancer in relief (*ibid.* no. 57); various toy animals (*ibid.* nos. 73, 74, 78, 79, 96, 98, 108); a cup-shaped mortar of *abri* stone (similar to those described under 'Stone Objects', ch. 25, nos. 32, 33); a stone weight weighing 8,174 grains (*ibid.* no. 42). The four gold bangles

('Jewellery', ch. 30, nos. 133–6) which were found on the surface in this area may date from the period after the Bactrian-Greek invasion.

It is to be observed, however, that not all of these objects are referable to the time immediately prior to the destruction of the building. The building was certainly in occupation for a considerable period. This is clear both from the character of the masonry, which resembles that associated with the second stratum, as well as from what we have remarked about the existence of the earlier floor. There is good reason, therefore, for assuming that some at least of these objects may date back well into the third century B.C. Unfortunately, the debris over most of this area is much disturbed, and unless a particular object happens to have been found above or below an existing patch of pavement, it is unsafe to use the depth at which it was found as a reliable criterion of its age. All that can be affirmed with any degree of confidence is that the finds made in this area were not later than about 175 B.C. and probably not earlier than 250 B.C.

I conclude this account of the digging on the Bhiṛ Mound with a summary of the minor antiquities associated with each of the four strata, beginning from the earliest. I must again remind the reader, however, that the debris on this site was much disturbed in ancient days, as it was in Sirkap, by the sinking of innumerable soak-wells, pillar foundations and the like, and that in consequence of this and the rarity of permanent pavements or floors the stratigraphical evidence is far from being well defined. The most, therefore, that I can do is to give an account of the antiquities unearthed in each stratum, indicating at the same time those which there are special reasons for regarding as strays from an upper stratum, or survivals from a lower. Another point also that deserves to be stressed here is that the area excavated in the third and fourth strata is not more than a fraction of that excavated in the second, and the minor finds which the former have yielded are correspondingly few. The paucity of such finds from the uppermost (first) stratum is explained by the fact that nearly all the structural remains belonging to this stratum have disappeared.

STRATUM IV: *c.* FIFTH CENTURY B.C.

Copper, gold and iron

Among metals, copper is represented by a plain bar of pure ductile metal ('Copper and Bronze', ch. 28, 'Analysis Table' no. 1) and by an ornamental pendant in the shape of a crescent decorated with a beaded circlet supported by two stags with a lizard in one horn of the crescent, a scorpion in the other (*ibid.* no. 21); gold by the sheath of a tooth or claw amulet decorated with a criss-cross design in fine filigree ('Jewellery', ch. 30, no. 81) and a six-petalled rosette of thin metal;[1] iron by a double-edged dagger with tapering point ('Iron Objects', ch. 27, no. 59, *a*), a spear-head,[2] and an axe with drooping head.[3]

Pottery

No domestic vessels made of copper or iron were found. Those of earthenware were wheel-turned and included a narrow-necked wine-jar with slender body ('Pottery', ch. 23, no. 10), a cooking pot (*haṇḍī*) with lug ears (*ibid.* no. 48), a flat-bottomed jar of the *martbān* shape

[1] Bm. no. 1,124 of 14. i. 31; sq. 11·61'; diameter 0·56 in.
[2] Bm. no. 1,135 of 14. ii. 31; sq. 18·63'; length 9·62 in.
[3] Bm. no. 825 of 26. i. 31; sq. 30·64'; length 5·5 in.

(*ibid.* no. 54) and a spouted *kuza* with ox-head handle and gadrooned neck (*ibid.* no. 75). All of these specimens are of well-baked plain red ware. Side by side with them were a few specimens of a grey ware with simple incised designs, notably, a squat flask with convex base decorated with chevron and crossed patterning (*ibid* no. 229) and a narrow-necked flask with spiral pattern round neck.[1] A jar of local red-and-black painted ware (*ibid.* no. 217)[2] and a fragmentary bowl of Greek black ware (*ibid.* no. 228), which were found in this stratum, were in all probability strays from the third settlement.

Stone — Among domestic objects made of stone are a door pivot-stone of gneiss ('Stone Objects', ch. 25, no. 8), a muller of green quartzite (*ibid.* no. 19), a pestle of hornblende (*ibid.* no. 34), a jeweller's mould of slate (*ibid.* no. 141), a loom-weight (?) of buff limestone[3] and a handle of slate;[4] and among personal ornaments made from semi-precious stones, a particularly beautiful ear-reel of greenish chalcedony[5] and a star of highly polished crystal.[6]

Bone and ivory — Bone and ivory were employed, as might be expected, for a variety of small objects: the former for a hair-pin with shell-head ('Bone and Ivory Objects', ch. 32, no. 24),[7] the handle of a comb (*ibid.* no. 58), a flesh-rubber (*ibid.* no. 60), and several arrow-heads (*ibid.* nos. 105, 106, 111); ivory for two well-turned ear-reels (*ibid.* nos. 5, 6), a pendant in quasi-human form (*ibid.* no. 12), draughtsmen or counters (*ibid.* nos. 85, 86), and fossilised ivory, presumably from Siberia, for the side-piece of a dagger-hilt (*ibid.* no. 122).

Glass — Apart from the glass beads noticed below, only two objects of glass came from this stratum, viz. an ear-reel decorated with a rosette on one side ('Glass', ch. 35, no. 20) and part of a miniature casket (*ibid.* no. 21). Both were made of a fine variety of black or very dark green glass, which has the appearance of obsidian and is remarkably free from quartz grains or other impurities. Two fused lumps of the same glass were also found in the 11 and 13 ft. levels.[8]

Sealings — No actual seals were found in the fourth stratum, but their existence is attested by two lumps of clay ('Seals', ch. 34, nos. 39, 40), which bear the impressions of three seals. The devices are two lions and a bird.

Beads — Of the beads from this stratum, sixty-five are of semi-precious stones, forty-nine of shell, twenty-five of glass, five of bone, three of common stones, two of copper and one of terra-cotta. Of the semi-precious stones, carnelian, with thirty-seven specimens, is the first favourite; then come agate with sixteen, lapis-lazuli with seven, quartz with three and chalcedony with two. Three out of the thirty-seven carnelian beads are etched in white by a process which dates from prehistoric times and was still being practised at Taxila in the first century A.D.[9] Amethyst, garnet, jasper and malachite beads, which were to become fashionable later on, do not occur in this early period. Most of the glass beads are colourless and iridescent. Of those that are coloured, four are blue and three black or very dark green; other colours represented by single specimens are green, grey, opal white and amber, but it may be suspected that the two last are strays from the second stratum.

As to shapes, the commonest are the spherical and barrel (of eight varieties) followed by the bicone and disk. 'Eye' beads are represented by eighteen specimens—mainly of shell with patches of crystal quartz cemented on; oblate by four; cylinders and leech by three each; scaraboid, cube, cornerless-cube and toggle by two each; elliptical, lenticular, tabular, faceted, spacer, button and duck-shaped by one each. Most noteworthy among these varieties are the

[1] Bm. '31–1,111; sq. 5·57'; height 5·37 in.

[2] Cf. Pl. 127, no. 217.

[3] Bm. '31–794; sq. 31·61'; diameter 6·5 in. The weight is oval-shaped with a shallow groove around for a cord.

[4] Bm. '31–885; sq. 27·63'; length 3·85 in. The handle is pierced with a hole near the end.

[5] Bm. '31–620; sq. 21·62'; length 0·65 in.

[6] Bm. '31–674; sq. 21·62'; diameter 0·9 in.

[7] For a similar shell-head of a pin, cf. Bm. '31–760; sq. 18·57'.

[8] Bm. '31–765, 873.

[9] Cf. ch. 37, pp. 737–8.

scaraboid, eye and leech beads. The scaraboid was a favourite shape in Achaemenid Persia and there can be little doubt that it was introduced from that country in the fifth century B.C., when Taxila was included in the Persian Empire.[1] It is possible that the presence of so many eye-beads in this stratum may also have been due to Persian influence, notwithstanding that eye-beads were known to prehistoric India.[2] The leech bead, on the other hand, was a characteristically Indian shape,[3] though whether the three specimens found in this stratum rightly belonged to it or had strayed, as I rather suspect, from the second stratum is questionable. Several gadrooned or '*āmalaka*' beads made of bone come from this stratum, and a similar bead which may be a survival was found in the Maurya stratum. Beads of this shape are also found in Sirkap, but they are made of faience, not bone.[4]

Nine coins only were found in the fourth stratum, viz. six punch-marked of the older 'oblong bar' and 'round and concave' types, one punch-marked of the later rectangular type and two Local Taxilan. The last three are doubtless strays from later strata above; the other six may be referable to the fourth or third stratum. As stated in the chapter on 'Coins' (ch. 38), the date of their first issue is likely to have been round about 400 B.C. There is no evidence to suggest that these, the earliest of Indian coins, antedate the period of Persian rule at Taxila. I append a stratigraphical table showing the finds of the earlier and later classes of punch-marked coins made in the Bhiṛ Mound. Coins

STRATIGRAPHICAL TABLE OF PUNCH-MARKED COINS FROM THE BHIṚ MOUND

(Other than the two hoards described below)

Punch-marked	Stratum IV	Stratum III	Stratum II	Stratum I	Total
AR Oblong bar	1	1	3	—	5
AR Round and concave	3	4	6	—	13
Æ Oblong bar	1	1	—	1	3
Æ Round and concave	1	3	3	—	7
Total	6	9	12	1	28
AR Rectangular (including two of base metal)	1	—	14	1	16
AR Round or oval (including one of base metal)	—	—	7	1	8
Æ Rectangular	—	—	7	—	7
Æ Round or oval	—	—	4	—	4
Total	1	—	32	2	35
Grand total	7	9	44	3	63

STRATUM III: *c.* FOURTH CENTURY B.C.

During this century Alexander the Great invaded the North-West, and evidence of Greek influence is to be seen in some of the ceramic wares, coins, and other small antiquities.

Copper and bronze are very scarce, the only articles made of them being two or three antimony-rods, an ear-cleaner and toothpick combined ('Copper and Bronze', ch. 28, no. 217) and two finger-rings ('Finger-rings', ch. 31, nos. 25, 26). The copper used for these articles is unusually pure. ('Analysis Tables', p. 567, no. 2); the bronze, which is leadless and contains Copper and Bronze

[1] *Ibid.* p. 744. [2] *Ibid.* pp. 745-6 and n. 2. [3] *Ibid.* pp. 744-5.
[4] Cf. 'Bone and Ivory Objects', ch. 32, Class III.

between 8 and 9 % only of tin, is of high quality, having the strength and elasticity of modern gunmetal (*ibid.* no. 9). As most of the bronze found in later strata at Taxila contains well over 20 % tin, it seems likely that this particular specimen from the third stratum may have been the result of Greek influence—an inference which receives corroboration from the fact that the only other object which shows a low percentage of tin (*ibid.* no. 16) is unquestionably Graeco-Roman.

Gold and silver jewellery

Of gold and silver ornaments there is one small group, which was found along with the large hoard of coins described below and dates in all probability from the close of the fourth century B.C., when Maurya rule was already well established. The group comprises: an ear-ring of gold resembling the Etruscan *à baule* type ('Jewellery', ch. 30, no. 52); a necklace of gadrooned and collared spherical beads with spacer circlets—the latter of pure, the former of impure gold (*ibid.* no. 54); a silver necklace of hemispherical drop pattern (*ibid.* no. 55); two bowl-shaped buttons or *phulas* of gold (*ibid.* nos. 199–200). To the same period also belongs a small triangular pendant made of double sheet gold (*ibid.* no. 87).

Iron

Iron objects include two adze heads, one of ordinary type,[1] the other, which is somewhat later, with sharply tapering blade ('Iron', ch. 27, no. 112); a knife or chopper with slightly convex back (*ibid.* no. 123); and a scraper or chisel with traces of a wooden handle.[2]

Pottery

Among ceramic wares the most noteworthy are a few pieces of Hellenistic 'black' and 'embossed' wares, which made their appearance after the invasion of Alexander the Great. A specimen or two of the 'black' ware, which were no doubt strays, were found in the lowest settlement, others in the second settlement, and others in the Greek city in Sirkap ('Pottery', ch. 23, Class XXXII). The embossed ware from this stratum is represented by three fragmentary vessels only (*ibid.* nos. 234–6) with characteristically Hellenistic designs of vine and floral scrolls, running spirals, and the like. It seems probable that the local red-and-black ware should also be dated to this period, though a specimen of it was found, as already mentioned, at a lower depth[3] (*ibid.* Class XXX). Some specimens of local plain grey ware, which is not uncommon at Taxila, were also found in this stratum (*ibid.* Class XXXIV), among them being a bowl[4] and a cooking pot[5] (*haṇḍī*), both with carinated sides. Objects of ordinary red ware included a small *loṭā* (*ibid.* no. 30), *haṇḍī* (*ibid.* no. 49), drinking-cup (*ibid.* no. 84), bowls (*ibid.* nos. 92, 96, 97), basin (*ibid.* no. 114), flesh-rubber (*ibid.* no. 166), miniature jar (*ibid.* no. 176), anthropoid vase (*ibid.* no. 184), stoppers surmounted by animals (*ibid.* nos. 200, 201), ring stand (*ibid.* no. 202), fragmentary sprinkler with four spouts,[6] and a mould of a nine-petalled flower for embossing on clay.[7]

Terra-cottas

Terra-cotta figurines, toys, etc., which were entirely absent from the fourth settlement, now make their appearance for the first time, but they are still very rare and for the most part seem to be strays from the second settlement. They comprise: (*a*) A primitive-looking idol of the 'Nude Mother' or 'Earth goddess' type, which almost certainly came from a ritual tank and might date from any time up to the first century A.D. ('Terra-cottas', ch. 24, no. 1). (*b*) The fragment of a votive plaque, showing a male and female deity side by side (*ibid.* no. 37). As votive plaques of this kind have been found in large numbers in the succeeding strata, there can be little doubt that this fragment is a stray. (*c*) Two toy elephants (*ibid.* nos. 77, 80), of which the former is evidently of Maurya technique. (*d*) A small number of ornamental medallions or *bullae* adorned with geometric devices, human masks or animals in the Hellenistic

[1] Length 6·25 in.; Bm. '31–617; sq. 28·65'.
[2] Length 3·25; Bm. '31–457; sq. 32·65'.
[3] An example of this ware from the third stratum, which is not mentioned in ch. 23, is part of a vase with an animal-headed handle (Bm. '31–531; sq. 27·63').
[4] Bm. '30–421; sq. 20·62'.
[5] Bm. '31–854; sq. 29·54'.
[6] Height 3·5 in.; Bm. '31–438; sq. 31·62'. Cf. 'Pottery', ch. 23, no. 71.
[7] Diameter 1·25 in.; Bm. '31–887; sq. 27·55'.

style (*ibid.* nos. 128, 131–3, 135, 137). (*e*) A group of decorative beads of various shapes, the findspot of which, like that of the preceding group, suggests that they date from the close of this period (*ibid.* nos. 138, 140, 142–5 and 'Beads', ch. 37, pp. 742–3).

Stone

Stone is represented by: a stool-quern of plain Mathurā sandstone ('Stone Objects', ch. 25, no. 13); four mullers (*ibid.* nos. 20–3); a cup-shaped mortar (*ibid.* no. 32); the fragment of a carved 'ring-stone' amulet (*ibid.* no. 131); a scraper of grey slate such as leather-workers used;[1] and the fragment of a slate mould for making beads.[2] The stool-quern from Mathurā and the carved ring-stone are not likely to have found their way to Taxila until after the Maurya conquest. One of the mullers, which is made of Chunar sandstone, probably dates from the autonomous period after the break-up of the Maurya empire; it is doubtless a stray from the top stratum (cf. 'Stone Objects', ch. 25, Class IV).

Bone and iv

Bone and ivory objects from this stratum comprise: two dagger-shaped amulets ('Bone and Ivory Objects', ch. 32, nos. 13, 14), the former of bone, the latter of ivory; a hair-pin and antimony-rod of ivory (*ibid.* nos. 25, 35); a bone stilus (*ibid.* no. 69); a spindle-whorl (*ibid.* no. 82); three draughtsmen or counters, two of ivory (*ibid.* nos. 87, 90) and one of bone (*ibid.* no. 91)—the last with *nandipada* and swastika symbols incised upon it, perhaps for luck; and a bone arrow-head (*ibid.* no. 108).

Seals and sealings

Of seals there are four, namely: a scaraboid of indurated clay engraved with the clumsy figure of a winged stag ('Seals', ch. 34, no. 8); two pyramidal seals of slate (*ibid.* nos. 2, 3), the former engraved with three swords set up in front of a standing figure, the latter with the figure of a man; and a pyramidal seal of beryl-like glass bearing on its base six *nandipada* symbols (*ibid.* no. 4). Scaraboid and pyramidal seals are found exclusively in the second and third strata of the Bhir Mound. I suspect that the pyramidal seals, like the plain pyramidal pendants, are all of Maurya date.

Beads

Ornamental beads have become more fashionable. Of 587 specimens, 232 are made of semi-precious and five of common stones, 217 of glass, fifty-one of shell, forty-nine of terracotta, twenty-five of bone, seven of copper and one of iron. The favourite stones, as in all other periods, are carnelian with 143 specimens (four of which are etched) and agate with sixty-three. The specimens of other kinds of stone can be counted on one hand. Amethyst, beryl, garnet, malachite and onyx all make their first appearance during this period, but are very rare; and so, too, is glazed quartz, which is represented by one specimen only—doubtless an import from abroad. Glass beads come much more into vogue, the commonest colours being blue with 135 specimens and green with thirteen. New but rare colours are cobalt, opaque orange and yellow, red and turquoise. On the other hand, no example of amber, grey or opal white, which occurred in the previous stratum, has been found in the third.

In the shapes of the beads there is little difference, the favourites being still the spherical (229) and barrel (79), followed by the bicone, disk, oblate and cylinder. It is noticeable, however, that angular and faceted beads are now becoming more popular, and that there are many more pendent amulets of various designs, namely: dagger, axe, double-axe, *nandipada* and crescent-edged wheel. The beads from this stratum also include 132 minute specimens.

Coins

There remain the coins, which include one of the most valuable hoards of silver punch-marked and other coins that have come to light anywhere in India. This hoard was found in square 32·26′, near the eastern limit of the main excavated area. It was hidden in a small earthenware *gharā*, which contained 1,167 silver coins besides the several pieces of gold and silver jewellery described above. The coins—all silver—are mainly punch-marked *kārshāpaṇas*. They comprise thirty-three of the long-bar variety, seventy-nine minute circular pieces weighing no more than from 2·3 to 2·86 grains, and 1,051 of the more elaborate type of punch-marked coins illustrated in Pl. 234, nos. 24–48, which appear to have been minted outside the North-

[1] Elliptical in section, 5·37 in. long. Bm. '31-605; sq. 33·62′.
[2] Size 1·37 × 0·8 × 0·8 in.; Bm. '30-395; sq. 25·64′.

Western area.[1] But, in addition to all these punch-marked pieces, the hoard also included a much-worn silver siglos of the Persian Empire and three Greek coins fresh from the mint, viz. two of Alexander the Great and one of Philip Aridaeus, who died in 317 B.C. (R.U.C. ch. 39, nos. 1–4). The presence of these coins and the position of the *gharā* both point to the close of this period, i.e. round about 300 B.C., as the date when this treasure was buried. A detailed description of this hoard has been published by Mr E. H. C. Walsh in *Memoir* No. 59 of the Archaeological Department, and a summary of his conclusions is given below in chapter 38, where some further remarks on it are also made by the writer.[2] The gold and silver ornaments which accompanied the coins are described in the chapter on 'Jewellery', (ch. 30, nos. 52, 54, 55, 199–200).

Apart from this hoard, the third stratum yielded nine punch-marked coins of the earliest type, viz. two oblong bars (one silver and one copper) and seven 'round and concave' (four silver and three copper). It also yielded ten Local Taxilan coins of five different types,[3] but there are good reasons, as I explain in chapter 38, for believing that these local Taxilan pieces belong to the second stratum.[4]

STRATUM II: THIRD CENTURY B.C. TO THE OVERTHROW OF MAURYA RULE

Influence of Maurya culture

During this period Taxila was under the rule of the Mauryas, and the influence of Maurya culture is clearly apparent in many of the minor antiquities (cf. ch. 2, p. 22). Small *objets d'art* are still imported from the western world and artists trained in the traditions of the Hellenised Orient found employment at the Maurya courts,[5] but it is from the East rather than the West that the minor arts and crafts of Taxila now mainly draw their inspiration.

Gold and silver

The precious metals are very rare. Of gold and silver only one small ornament each—viz. a gold ear-pendant of the 'amphora' type with dolphin handles, which was fashionable in the Greek world from the third century B.C. onwards and is believed to have originated in Syria or Egypt ('Jewellery', ch. 30, no. 1), and a plain silver finger-ring with oval bezel ('Finger-rings', ch. 31, no. 18).

Copper and bronze

Almost equally rare, too, are copper and bronze, which are never used at this period for the large cauldrons, cooking-pots, jugs, ewers, frying-pans, etc., so common in the Śaka-Parthian city in Sirkap, but only for personal ornaments and other light articles such as antimony-rods and phials, small bowls, writing stili and the like. All the copper and bronze objects from this settlement taken together would not contain more than 2 or 3 lb. of metal. Among them are: nine finger-rings, mostly with plain bezels, but one engraved with the figure of an elephant

[1] Coins of this type are classified in the *B.M. Cat.* under Class VI. They are the finest of the Maurya coins and may have been minted at Pāṭaliputra.

[2] Cf. pp. 751 ff.

[3] I.e. Types 2, 3, 8, 18 and 21 of the stratigraphical chart attached to chapter 38, pp. 761–2.

[4] 'Coins', p. 756.

[5] The sculptors responsible for the pillars set up by Aśoka at Sārnāth and Sāñchī were unquestionably trained in a Hellenistic or Perso-Hellenistic School, which in all probability was located in Bactria. On this subject see my remarks in *C.H.I.* 1, pp. 621–2. Bactra, the capital, was at this time not only a vital art centre, as is shown by its coinage, but being in the closest commercial relation with the Maurya Empire (it was the clearing-house for a great volume of trade passing between India and the West) it could not fail to exercise a far-reaching influence on the economic and cultural life of its eastern neighbour.

(*ibid.* nos. 19, 27–30, 34, 41); four bangles and bracelets, one with a bead-and-reel moulding ('Copper and Bronze', ch. 28, nos. 4, 8, 9, 13); a brooch with a double row of arcading, surmounted by the forefronts of four steeds (no. 22); a hide-shaped pendant (no. 23); an antimony-rod and hair-pin with trident head (nos. 218, 226); two antimony-phials, one with a stopper in the form of a bull and both of hammered copper (nos. 240–1); two small bowls of hammered bronze (nos. 276, 276, *a*; 'Analysis Table', p. 567, no. 10); two stili (nos. 342–3); two small bronze bells (nos. 344–5); a copper needle and a bronze plummet (nos. 370, 375).

The bronze used in these articles is made of several different alloys. In one alloy, which seems to have been most commonly employed, the percentage of tin was over 21 % (e.g. *ibid.* no. 10) and as a consequence the bronze, though easy to cast, was exceptionally brittle. In another (*ibid.* no. 28), the copper was combined with some 34 % zinc, 4 % tin and 3 % lead to form a malleable brass, which now makes its first appearance in India. In a third (*ibid.* nos. 32, 33), the copper was combined with nickel, which besides giving it a silvery lustre had the advantage of making it peculiarly ductile and suitable for hammering. A similar alloy of copper and nickel was employed for some of their coins by Euthydemus II, Pantaleon and Agathocles (*ibid.* no. 34), and there can be little doubt that it was obtained from the Yunnan Province of China, where mixed ores of the two metals are found in a natural state. The alloy, now known in China as *pai-t'ung* (= Eng. 'packtong'), may have been traded in a raw condition from Yunnan to Taxila, but it is more likely perhaps that such few articles of this white metal as have been found at Taxila were made by melting down coins of the Indo-Bactrian kings, just as silver articles are commonly made in India to-day by melting down rupees. In the case of the nickel and copper bangle (*ibid.* no. 33) the ratio of nickel to copper is very nearly the same as in the coin of Euthydemus II (no. 34), but in the case of the antimony-rod (no. 32) the percentage of nickel is reduced by about half (i.e. from 18·88 to 9·02 %). This, of course, can easily be accounted for on the assumption that the craftsman who made the rod eked out his supply of the costly nickel alloy by throwing some more copper or copper-and-tin-bronze into the melting-pot.

Owing to the scarcity of copper, iron is used widely,[1] not only for weapons, tools and agricultural implements, but also for household vessels and utensils which in later times were made of the more malleable copper, and even for finger-rings. Examples of such articles are: Iron

Iron Objects. Ch. 27, nos. 7 (shallow bowl), 19 (spoon), 26 (fragment of sieve), 27 (baking-pan). Weapons of this metal are represented by nos. 59 (double-edged dagger), 64 (heavy javelin)[2] and 72–6, 80–3 and 85 (arrow-heads of several patterns). Among tools, implements, etc. are nos. 101 (elephant goad = *aṅkuśa*), 103 (axe), 113 (adze), 118 (mortising chisel), 122 (knife), 130 (small tongs), 143 and 144 (beak-irons), 150–2 (nails), and 182–4 (socketed hoes).

Finger-rings. Ch. 31, no. 57 (finger-ring with flat oval bezel).

Of earthenware vessels only a very small proportion show Hellenistic influence. These include: two or three fragmentary specimens of Greek black ware ('Pottery', ch. 23, no. 227), a small but attractive-looking jar embossed and stamped with formal Greek devices (no. 238), two traveller's water-bottles (nos. 43, 46), some handled jugs (e.g. nos. 76, 79), a baking-pan with two handles (no. 112) and covers with loop-handles inside (no. 192).[3] Pottery

Apart from the above, all the pottery is Indian and, like most Indian pottery of the historic period, possesses little distinctive character in regard to either shape, fabric or decoration. A few of the vessels, like the *kuza, kuzī*, sprinklers and concave covers with knobbed handles inside, are sufficiently out of the ordinary for the country of their origin, if not their date, to be

[1] Owing to the circumstance that iron easily corrodes and disintegrates, the vast majority of objects made of this metal have been reduced to fragments, or have left no trace except the marks of rust in the soil. Those which have survived in recognisable shape are but a small fraction of the whole.

[2] It is possible, however, that this may be a stray of later date.

[3] Cf. 'Silver Objects', ch. 29, Pl. 189, no. 20, *a*, *b*.

recognised, but the vast majority are without any distinguishing traits and might have been produced in Vidiśa or Bactra or anywhere else just as well as in Taxila. The only concern of the potters was to produce a cheap, serviceable article, not to refine upon its shape or to make it in other respects either stylish or beautiful. Representative specimens of these purely Indian vessels are the store-jars (nos. 1, 2, 6), oil- and wine-jars (nos. 8, 9, 11, 12), narrow-necked flasks (no. 16), open-mouthed pots = mod. *ghaṛā* and *loṭā* (nos. 26, 27, 31, 32), flat-bottomed pots and jars (nos. 35, 40, 52, 53, 55), spouted pots = mod. *kuza* and *kuzī* (nos. 66, 70, 71), drinking-cups (no. 85), bowls with rounded and flat bases (nos. 94, 103), and lamps (no. 135). Among other miscellaneous articles are a small crucible (no. 165), flesh-rubber (no. 167), two-handled pounder (no. 170), measures (?), one of which is inscribed (nos. 173, 174), miniature vessels (nos. 175, 178, 180), covers (nos. 186, 188), lids (no. 194), stoppers (nos. 198, 199), ring-stand (no. 205), drain-pipes and open gutters (nos. 209, 214), handled pot of red-and-black ware (no. 216).

Terra-cottas

In contrast with the indigenous pottery, the small terra-cottas, which in this period are all but exclusively Indian, frequently show considerable imagination and, in spite of their rough workmanship, a real appreciation of decorative detail. Large numbers of these terra-cottas have been found in the second stratum, and there can be no doubt that their vogue dates from the period of the Maurya occupation. Many of them are of a religious character. Such are the archaistic idols of the 'Nude mother' or 'Earth goddess' type, which belonged in all probability to ritual tanks[1] ('Terra-cottas', ch. 24, nos. 3, 4, 5) and the very interesting image, no. 55. Of the ritual tanks themselves only one specimen was found in this stratum (no. 153). Such, too, are the numerous votive plaques with figures of deities of certain fixed types. In one frequent type a female deity is shown standing with full flowing skirts (nos. 9–12); in another she has tight, Egyptian-looking skirts and holds a bird in her left hand (nos. 17–19); in a third she is seated with the bird held in both arms (nos. 20, 21); in a fourth (again a standing type and characteristically Indian in detail) she carries a child on her left hip (nos. 23, 24). Of the male figures some are clad in a simple *dhotī*, with or without a scarf (nos. 26, 27); others in full Indian dress (nos. 28, 29). In another type the figure is accompanied by a goat (no. 32). Besides these, there are also a great many plaques which show a male and female figure in Indian dress, standing side by side and holding hands (nos. 35, 38).

To another category belong a number of pot-bellied dwarfs (*kumbhāṇḍas* or *kīchakas*), of the type figured on the gateways of the Great Stūpa at Sāñchī (nos. 39, 40, 41), and with these may be mentioned a curiously grotesque figure of an old man (no. 44) and the upper part of an Indian dancer, or possibly a Yakshi, of fine workmanship (no. 57).

Of secular objects of terra-cotta the principal are children's playthings, which take the form of the familiar toy cart (nos. 58, 59), animals running on wheels (nos. 61, 62, 64–9), animals without either cart or wheels (nos. 72–4, 78, 79, 82–5, 91, 92, 96, 102) and rattles (nos. 108, 109). Other articles of a secular kind are: a playing-die (no. 122), a few *bullae* adorned with rosettes or geometric devices of the kind found in the preceding stratum (nos. 129, 130, 134), and a few other cheap trinkets (nos. 139, 141).

Stone

Like iron, stone was also used to make good the deficiency in copper for manufacturing household vessels. In the cutting, turning and polishing of hard stones the Maurya craftsman was exceptionally skilful, and some of the specimens from the Bhir Mound, like nos. 37, 50, 95, 129, 130, are superb pieces of work. The stone objects include two shallow dishes, one of *abri* stone (a shell-limestone of great beauty when polished), the other of fine hornblende-gneiss ('Stone Objects', ch. 25, nos. 36, 37), a saucer of alabaster (no. 42), a standard cup of *abri* (no. 48), a small fragmentary bowl of highly polished banded agate (no. 50), miniature trays of crystal quartz (nos. 95, 96), a burnisher of chalcedony (no. 118), a knife-handle of hornblende-gneiss (no. 157) and an ear-reel of yellow riband jasper. The vessels made of *abri*, hornblende-

[1] See 'Terra-cottas', ch. 24, nos. 153–63 and Pl. 136, *w*, *x*.

gneiss and other stones obtainable in the neighbourhood, were no doubt made at Taxila itself. Those of agate, crystal, and other semi-precious stones were presumably imported from down country (*ibid.* pp. 477–8). Such imports also include two exquisitely carved ringstone amulets of characteristic Maurya workmanship (*ibid.* nos. 129, 130), some polished roundels made of a remarkable and hitherto unknown 'porcelain agate' (*ibid.* no. 138 and p. 478–9), and the exceptionally fine carnelian and agate beads described below.

Bone and ivory

With few exceptions, the objects of bone and ivory are of the same character as those from the previous stratum. They include a bone antimony rod (no. 36), ivory spindle whorls and draughtsmen (nos. 83, 84, 88, 89), arrow-heads made of both materials (nos. 109, 110, 112–14), and a bone handle or terminal with bead-and-reel moulding (no. 125). The exceptions referred to are a single specimen of a bone bangle (no. 1), a bone stilus pen (no. 70), a child's doll of the same material (no. 121), and a finely carved ram's head of fossilised ivory (no. 119). The last mentioned, like the ram's head on the scaraboid seal, no. 11, is obviously Hellenistic work. Fossilised ivory presumably came from Siberia via Bactria, and this head and the dagger-hilt (no. 122) may both emanate from the latter country.

Glass and shell

Glass seems to have been used in the Maurya period chiefly, if not exclusively, for the manufacture of bangles, beads and seals; shell for bangles and beads only. The seals and beads will be noticed later. As to bangles, the glass ones are chiefly plano-convex or plano-conical in section, but narrower in proportion to their thickness than the later specimens from Sirkap. Their colours are blue, green and black. Other colours which are found among the glass beads of this period, viz. amber, opaque orange and yellow, red and turquoise, are absent from the bangles ('Glass', ch. 35, p. 684). Bangles of shell, which now appear for the first time, also take the same form as their glass counterparts, some being plain on their outer surface, others relieved with such simple patterns as crosses, hooked triangles or cables ('Shell Objects', ch. 33, nos. 16, 17, 21, 22, 27, 28). Apart from bangles and beads, the only object of shell datable to this period is a plain finger-ring with elliptical bezel ('Finger-rings', ch. 31, no. 66).

Seals

Seals are made of stone and glass and copper, and are of two shapes—scaraboid and pyramidal—both of which are represented among the ornamental beads. The scaraboid was a characteristic Persian shape and the excessive use of the drill observable in some of the seals points in the same direction; in other seals, however, like no. 11, with the fine ram's head, and no. 12, with the racing horse, the workmanship is obviously Greek. Of the specimens found in the second stratum, no. 9 is a black agate with the figure of a lion and *nandipada* symbol; no. 10 is a chalcedony with two winged lions side by side (cf. 'Seals', ch. 34).

The pyramidal seal, like the pyramidal pendant, was introduced at Taxila under the Maurya regime. Examples of it from this stratum are 'Seals', no. 5 (of green glass with two figures side by side), no. 6 (also of green glass, with man, staff, circle and *nandipada*), and no. 7 (of copper, with conventionalised lotus). As noticed in chapter 34, these pyramidal seals differ completely from the scaraboids, not only in shape but also in the character of their devices and in the technique of the engraving, which is done in the crudest fashion and without the help of the drill. The probability is that they were made at Taxila itself; in any case they were Indian. Only one sealing (no. 41) was found in this stratum. It is impressed with the figure of a humped bull, with *nandipada* above.

Beads

Speaking generally, the Maurya period is remarkable rather for the exceptional beauty of its beads than for innovations in their form or in the materials of which they were made. As to the latter, amethyst is one of the semi-precious stones that now comes into fashion, but carnelian, with 232 specimens, and agate, with 108, are easily the prime favourites, as they were in the preceding century. Among other materials, amber, coral, and faience now make their first appearance but are still very rare. For glass beads the commonest colours are still blue and green. Black and red come a long way behind, while amber, yellow, orange, opaline and turquoise are represented by one or two specimens only.

Shapes remain much the same as in the previous period, the main differences being that some shapes are more popular, notably the scaraboid, faceted, tabular, collared, leech, triangular and hexagonal barrel, bud and pyramidal pendant. There is also greater variety in the 'eye' beads. What, however, distinguishes the Maurya beads more than anything else is the choice quality of the stones employed and the perfection of the cutting and polishing, which was unsurpassed in the ancient world. In the first century A.D. Indian agates and carnelians were highly prized by the Romans, but so far as beads are concerned, none of that date are as fine as the Maurya ones.

Coins

Of the coins of this stratum there is not much to be said here. We have seen that the great hoard of silver punch-marked coins found near the top of the third stratum dates in all probability from the early years of Maurya rule (i.e. from round about 300 B.C.), but that the bulk of them (of the type illustrated in Pl. 234, nos. 24-48) came from somewhere down country and were rarely seen in circulation at Taxila. The coins current at Taxila under Maurya rule comprised: (*a*) Punch-marked silver and copper issues of the old 'long bar' (*ibid.* nos. 1-7) and 'round and concave' classes, which had been minted from early in the fourth century B.C. and were still in circulation. It is noteworthy that a few of the 'silver' specimens are of base metal. (*b*) A later class of punch-marked silver and copper issues (with a few of base metal) of rectangular, round, or oval shape. Specimens of these are illustrated in Pl. 234, nos. 49-56. Of the thirty-five coins of this class found here and there among the Bhiṛ Mound ruins, all save one were within 5 ft. of the surface. It is clear, therefore, that they date from the later years of Maurya rule and from the period of autonomy which followed it. (*c*) Coins of the 'Local Taxilan' class, which were only minted in copper. That these Local Taxilan issues date from the Maurya period is evident from the fact that of the 179 specimens found in the Bhiṛ Mound, 134 came from the second stratum, thirty-three from the first, and the few remaining ones, which were no doubt strays, from the strata below (cf. 'Coins', ch. 38, p. 756). On the other hand, the very large number of these coins found in Sirkap (484, comprising twenty-five different types) suggests that they continued to be struck not only during the brief interval of autonomy, but for some time after the Greek and possibly after the Śaka conquest.

Of the coins found in the second stratum itself, twelve were of the older 'oblong bar' and 'round and concave' classes (seven silver, two base and three copper), thirty-two of the later punch-marked class (eighteen silver, three base and eleven copper), and 134 of the 'Local Taxilan' class (all copper).

STRATUM I: MAINLY OF THE AUTONOMOUS PERIOD FROM THE BREAK-UP OF THE MAURYA EMPIRE TO THE COMING OF THE BACTRIAN GREEKS

The structural remains in this stratum consist of nothing more than a few fragmentary foundations on the surface of the mound, and the minor antiquities were correspondingly meagre. Most noticeable among them was a small treasure which came to light near the northern edge of the site.[1] It comprised 166 silver and billon punch-marked coins of the later class referred to above, a fine gold stater of Diodotus struck in the name of Antiochus II, and several pieces of gold and silver jewellery, besides some miscellaneous objects and a number of small pearls, amethysts, garnets and pieces of coral.

Treasure of jewellery and coins

[1] The precise findspot was a few feet inside the small gate which leads from the outer to the inner lawn on the east side of the archaeological bungalow.

The punch-marked coins, which are of a different and later class from those in the larger hoard, are fully described in Mr Walsh's *Memoir* and in his summary below (ch. 40). The stater of Diodotus is numbered 39 in the 'List of Rare and Unique Coins' (ch. 39). The jewellery and miscellaneous objects were as follows: a gold and lead tooth or claw amulet adorned with a finely granulated pattern ('Jewellery', ch. 30, no. 80); an oblong reliquary of silver, also with a granulated design, and another reliquary of the same kind with the decoration obliterated (*ibid.* nos. 82, 83); five lozenge-shaped and two gadrooned beads of gold (*ibid.* nos. 71, 72); three pipal-leaf pendants of gold (*ibid.* no. 88); a lion-headed terminal of a gold bracelet (*ibid.* no. 166); seven disks of thin gold used for closing the trumpet ends of bangles (*ibid.* nos. 204–10); a copper bracelet with flanged edges, once covered with gold-leaf ('Copper and Bronze', ch. 28, no. 7); a scaraboid seal of slate with a fine engraving of a ram's head ('Seals', ch. 34, no. 11); a square stone seal with broken handle engraved with trident and cross (no. 28, *a*); a pendant of shell in the form of a *triratna* and another of interlocked bicones;[1] a 'spear-head' drop of green glass;[2] and a small earthenware vessel, possibly a measure, of uncertain use ('Pottery', ch. 23, no. 173).

As Diodotus was reigning in the third quarter of the third century B.C. (the precise years are uncertain), this second hoard is probably referable to the closing decades of that century—a date which is supported by the other available evidence.

Other personal ornaments from this stratum are a gold 'fleur-de-lys' pendant ('Jewellery', ch. 30, no. 86) and four gold bangles with ends terminating in lions' heads (*ibid.* nos. 133–6, cf. pp. 100–1 *supra*); a lead finger-ring with tiger(?) engraved on almond-shaped bezel ('Finger-rings', ch. 31, no. 59); two copper bangles, one a child's, and a heart-shaped cloisonné pendant of the same metal[3] ('Copper and Bronze', ch. 28, nos. 1, 16, 24). The ornamental beads call for no particular comment. They number only sixty-two and are in all respects similar to those of the Maurya age. (For details, cf. 'Beads, Stratigraphical Tables', pp. 730, 732–3.) Personal ornaments

Among the pottery are two interesting pieces of Hellenistic ware, one a fragmentary but handsome mixing-bowl (*krater*) decorated with a fluted leaf design around the body, bead-and-reel border and a head of Heracles or Alexander at the base of the handle ('Pottery', ch. 23, no. 226); the second a shallow bowl embossed on the outside with an ivy scroll enclosing a medallion on the bottom (*ibid.* no. 237). Besides these foreign vessels, the pottery includes: a double pot of the *kernos* type (no. 151); a finial (no. 172); some miniature vessels (nos. 177, 179); and a stamp with the figures of a spearman and horse in a circle of pendant drops (no. 259). Among the few figurines of terra-cotta is a pot-bellied *kumbhāṇḍa*, similar to those from the preceding stratum, and a toy ram ('Terra-cottas', ch. 24, nos. 43, 98). Pottery

Other objects from this stratum are:

Stone. Ch. 25, nos. 6, 9—the former a wheel-socket of grey gneiss, the latter a door-socket of red granite; nos. 14 and 15—two stool-querns of sandstone, the latter adorned with various emblems, including pairs of fishes and *dharmacakras*; no. 24—a muller of Chunar sandstone, which, if my conjecture is right, came from one of Aśoka's monuments broken up after the overthrow of Maurya rule. Stone, iron and copper objects

Iron. Ch. 27, no. 63—a four-sided and tanged spear-head; no. 191—a chisel-headed and socketed spud.

Copper and Bronze. Ch. 28, nos. 357, 358—two surgical decapitators(?) of copper; no. 390—the wheel of a toy cart of copper.

[1] H. Beck, *Beads from Taxila* (= *A.S.I. Memoir* No. 65), Pl. VIII, nos. 7, 8. The pendants are 0·75 and 0·37 in. across, respectively.

[2] *A.S.R.* (1912–13), p. 41, no. 12. It is 0·87 in. long.

[3] The design and workmanship, however, of this particular pendant point to a later, probably Parthian, date.

Chapter 4. SIRKAP

Transference city from the Bhir Mound to Sirkap

IN THE opening years of the second century B.C. the city of Taxila was transferred by the Bactrian Greeks from the Bhir Mound to a new site, now called Sirkap, on the other side of the Tamrā nālā to the north-east; and this new site remained in occupation for three centuries during the successive domination of Greek, Śaka, Parthian and Kushān rulers down to the time of V'ima Kadphises, when the city was again shifted north-east across the Luṇḍi nālā to the site of Sirsukh. But even after the victorious Kushāns had built their new city in Sirsukh, Sirkap must still have continued for some time in partial occupation, just as the Bhir Mound had been partially occupied for some time after the removal of the city to Sirkap.

The name Sirkap and the legend of Rāsālu

The name 'Sirkap', like that of 'Sirsukh', is widely known in parts of the Panjāb[1] in connexion with the legend of the hero Rāsālu and the seven demon Rākshasas, who fed on human flesh. The Rākshasas were a family of three brothers and four sisters living at Mānikpur west of the Jhelum river, the names of the three brothers being Sirkap, Sirsukh and Amba, and of the four sisters, Kāpi, Kalpi, Munda, and Māndehi.[2] Rāsālu was the son of Sālivāhana and rāja of Siālkot (Śākala). One day, when he went to the city, he found a woman cooking her food and alternately weeping and singing. Surprised, he asked her what it meant. 'I sing for joy', she said, 'because my only son is to be married to-day, and I weep for grief because he has been drawn by lot to be a victim of the Rākshasas.' Rāsālu bade her weep no more because he himself would deal with the Rākshasas. Thereafter he killed all the demons except one, which is said to be still alive in a cavern of Gāndghar, where his bellowings can sometimes be heard. The legend also tells how Rāsālu once played with Sirkap for a human head, but, having won, accepted his daughter Kokilā instead of the stake.

According to Cunningham, this legend is to be traced to the well-known birth-story of the Bodhisattva offering his body to feed a starving tigress,[3] but it is more probable perhaps that the legend went back to pre-Buddhist times and, like so many other folk-tales, was subsequently incorporated in the Buddhist *Jātakas.*

[1] According to Cunningham (*C.S.R.* II, pp. 153, 205 n.) the legend belongs essentially to the district of Putwār, between the Jhelum and the Indus, but is well known at Ambākapi, near Lahore, and also among the Gujars of Buriya and Sahāranpur, to whom its extension may have been due.

[2] The names are descriptive epithets appropriate to ravening beasts, ***kap*** meaning 'trembling', ***sakh*** 'emaciated', ***ama*** 'raw', etc. *C.S.R.* II, p. 156.

[3] Cunningham speaks of the Bodhisattva offering his body to appease the hunger of 'seven tiger cubs', but it should be noted that in their accounts of Mānikiāla, the scene of the sacrifice, neither Fa Hien nor Hsüan Tsang makes mention of any cubs but only of the starving tigress. Cunningham was also in error in reading the word ***horamurto*** (='alms-bowl'), which is twice repeated in the Mānikiāla inscription of the year 18, as ***huta-murta***, and interpreting it as 'body-offering'. *C.S.R.* II, p. 154; *C.I.I.* II, p. 148.

However this may be, there is no reason to suppose that the names Sirkap and Sirsukh became attached to the two groups of ruins at Taxila until medieval or later times, or that they owed their origin to anything but the familiar legend related above.[1] In the neighbourhood of Sheikhupura, north-west of Lahore, are seven ruined mounds which perpetuate the names not only of Sirkap and Sirsukh, but of the other members of the Rākshasa family, viz. Amba, Kāpi, Kalpi, Munda and Māndehi; and here Cunningham conjectured that the two names Amba and Kāpi can be traced in combination in the town Amakatis or Amakapis, which Ptolemy locates to the west of the Rāvī, in a position seemingly not far from Sheikhupura. This ingenious conjecture, however, rests on an altogether too slender basis to justify any chronological inference being drawn from it.

The site of Sirkap

The site selected by the Bactrian Greeks for their new city embraced part of the extreme western end of the Hathiāl spur together with a small sharply defined plateau on its northern side, the whole bounded by the Tamrā nālā on its western side and by the smaller Gau nālā on the north and partly on the east. Thus from every point of view it was just such a site as might be expected to appeal to a Hellenistic town-planner, who required, first and foremost, a considerable space of level ground, if he was to design an effective lay-out of streets and buildings on the schematic chess-board pattern which was then in fashion; in the second place, a backing of low defensive hills, some part of which could be brought within the city's perimeter; and in the third place, the presence of one or more streams alongside the walls to ensure a steady supply of water and at the same time increase the strength of the defences.[2]

Fortifications

The stone wall which surrounded the Sirkap city was approximately 6,000 yards or nearly 3½ miles in length, with a thickness varying from 15 to 21 ft. 6 in. (Pl. 11). Along the western edge of the plateau it has an irregular alignment, broken by various salients and recesses, but on the north and east sides it is quite straight, and from the south-east corner of the plateau proceeds in the same straight line up the steep side of the northern ridge of the Hathiāl spur, 160 ft. in height (Pl. 11, *c*), then dips down across a depression, traverses a second ridge and depression, and so ascends to the summit of the third and highest ridge towards the south, which is just on 300 ft. above the general level of the plain. From this point it formerly turned in a westerly direction and descended the rocky edge of the ridge to its

[1] On the suggested origin of Sirsukh from Kshahara Chuksa, cf. *C.I.I.* II, p. 25.

[2] The practice of dividing cities into rectangular blocks by streets crossing each other at right angles was first introduced into the western world in the fifth century B.C. by Hippodamus of Miletus, who planned the Peiraeus at Athens and the cities of Thurii and Rhodes. Following in his footsteps Dinocrates laid out Alexandria on still more ambitious lines. A notable example of this type of town-planning is the excavated city of Priene. Cf. M. Schede, *Die Ruinen von Priene*, Abb. 10, 11, 13, and Rostovtzeff, *A History of the Ancient World*, Pl. LXXXV, no. 1, where there is a graphic picture of the lay-out, after A. Zippelius. For an illustration of Selinous in Sicily, also laid out on the same principle, cf. Daremberg et Saglio, V, p. 781, and fig. 7,426. It is probable that Śākala (mod. Siālkot), the capital of Menander, was also laid out on the Greek chess-board pattern. Cf. *Milindapañha* I, I (*S.B.E.* XXXV, p. 2) and I, 34 and 330 *sqq.*, where the cities described were in all likelihood Yavana, not Indian, as assumed by Coomaraswamy, *Eastern Art*, II (1930), p. 209.

western corner; after which it took a sharp turn to the north, then bent west again round a prominent bluff above the Tamrā nālā, and so returned north along the western scarp of the plateau. Within its circuit the city wall thus embraced three rocky and precipitous ridges of the Hathiāl spur, besides an isolated flat-topped hill, which rises in a gradual slope from the bluff above referred to, and the low level plateau to the north.

Construction of wall

Throughout its whole length the core of this wall was composed of random rubble in mud, the facing of coursed rubble similar in all respects to that found in other local buildings of the Greek and Śaka periods (Pl. 12, *c*, *d*).[1] The stone used for the masonry is the hard limestone of the adjoining hills mixed here and there with softer kañjūr dug out from the alluvium of the valleys. On the north side of the city the wall was strengthened on the outside by a raised berm about 25 ft. in width, and by a series of solid rectangular bastions set at irregular intervals along its face (Pls. 11, *a* and 12, *a*, *b*). The berm, which was designed especially to protect the foundations of the wall from being undermined, was composed of rubble and mud with a retaining wall of coursed rubble along its front;[2] the projection of the bastions from the curtain is the same as that of the berm (*c*. 25 ft.) on the retaining wall of which their fronts are supported; their width averages about 23 ft. On the east side of the city only small sections of the wall have been examined, but here it has been found that the bastions are carried down for 9 ft. and more below the bottom of the wall, and that both wall and bastions are strengthened on the outside with footings, as if intended to be buried to the height of some 6 ft. or so in the ground.

The height of the walls was in all probability between 20 and 30 ft. The bastions would, presumably, be higher, and we may conjecture that they were provided with two, or possibly three, stories—hollow and loopholed—above the solid basement. The curtain wall between the bastions would also be loopholed above and furnished with a berm on the inside for the use of the defenders, in this respect differing from the later (Kushān) walls of Sirsukh, which were loopholed in the lower as well as in the upper story.[3] A little to the east of the north gateway were the remains of a ramp of rubble stone which ascended to this berm.

Gateways

The position and number of the city's gateways is doubtful. Cunningham opined that there were seven, viz. two in each of the northern, western and eastern walls and one in the southern. But excavation has not confirmed his surmise. In the northern wall there was one gateway, and one only, at the end of the High Street, which runs north and south through the heart of the lower city. This is the only gateway in Sirkap of which any actual remains have been brought to light. The rest are conjectural. But it is virtually certain that on the east side there must have been a gateway at the point shown on the plan (Pl. 1), where a modern road, crossing the lower city from east to west, still passes through the line of the old fortifications; and it is equally certain that there must have been a third gateway

[1] Cunningham's statement (*C.S.R.* II, p. 119) that the wall is built of squared stone is incorrect.

[2] In the fortifications of Sirsukh dating from the early Kushān period the place of the flat berm is taken by a heavy roll footing. Cf. *infra*, p. 218.

[3] *Ibid.*

more or less opposite to the last on the western side. The natural position for this third gateway would be in the deep bay where the Tamrā nālā sweeps round in a sharp bend, and where the townsfolk could draw their water (for there were no wells inside the town) under the protection of the fortified bluffs to the north and south. This indispensable water gate has now been completely obliterated by a high modern retaining wall which the cultivators have built to hold up the soil inside the walls, but it is said to have been quite visible a few decades ago. If a fourth gateway ever existed on the south side of the city, it is likely to have been a small one for military or occasional purposes only.

Northern gateway

If we turn to the plan on Pl. 10, we see that the northern gateway was set, not directly opposite the end of the main street, but a little to the east of it, so that the street itself was masked from view as one entered the gateway (Pl. 11, *b*). An advantage of this position was that it would check any sudden rush of assailants and prevent them sweeping through the gateway and up the Main Street. A further advantage, that may or may not have been foreseen by the town-planners, was that during the rainy season the flood-water pouring down the Main Street would expend its force to some extent against the city wall, or rather against the very solidly built guardhouses on its inner side, before entering the capacious underground drain which passes from south to north beneath the gateway. The plan of the gatehouse is problematical, as nothing more than its foundations have survived, and these not in their entirety. It appears, however, to have comprised: (*a*) A large hall, constituting the gateway proper, with an inside measurement of about 62 ft. north and south by 35 ft. east and west. This hall projected about 20 ft. on both sides of the wall, but the outer projection, which formed, as it were, a barbican in front of the gateway, was, as might be expected, a much more solid construction than the inner; and, indeed, it seems likely that the latter may have been a subsequent addition—in which case the original hall (including the barbican) would have been approximately square. The entrance to the barbican from the outside seems to have been parallel with the face of the city wall, not at right angles to it, as was commonly the case in Indian cities. (*b*) Two guardrooms set against the outer face of the wall and communicating with the barbican on its western side. (*c*) Two more guardrooms, with sleeping-cells against the inner face of the wall, to the west of the gateway. From the excessive strength of their construction it may be inferred that these possessed at least one upper story which communicated directly with the battlements. Whether there was a second, and possibly third, story over the entrance hall, as was generally the case in the gatehouses of Indian cities, there is no evidence to show.[1]

[1] For the plan of a typical Indian gatehouse (*dvārakoshṭhaka*) as described in Kauṭilya's *Arthaśāstra*, cf. Coomaraswamy, *Eastern Art*, II, pp. 213–21 and fig. 3. The ground-floor of an Indian gatehouse of that period (*c.* 300 B.C.) comprised five parts, viz. a hall (*śālā*), well-house (*vāpī*), boundary house (*sīmāgṛiha*) and two platforms (*mañcau*) facing one another, like the raised platforms on either side of the entrance hall, which are so often to be seen in the gateways of medieval and later Indian cities. Here in Sirkap, the plan was not, of course, Indian.

Wells

In the main entrance hall are the remains of two small wells constructed of rubble stone. One of these, which is circular in plan, is partly engaged in the eastern wall; the other, which is square, is close by but standing clear. The former is the older of the two and was no doubt closed in and abandoned, when the square one was built. Wells to supply the tired wayfarer with water have at all times been a familiar feature at the gateways of eastern cities, and it might naturally be supposed that these two wells served a like purpose. As a fact, however, they were nothing more than refuse wells for the use of the gateway guard, resembling in this respect every other well that has yet been unearthed in the Sirkap and Bhiṛ Mound cities, where every drop of water, other than rain-water, had to be fetched either from the Tamrā nālā stream or from wells in the low-lying ground outside the walls.[1]

Extent of Bactrian Greek city and date of stone fortifications

A problem of great interest for the history of Taxila concerns the original extent of the Bactrian-Greek city and the date when the stone fortifications described above were erected. Immediately to the north of Sirkap there is a considerable area of ground known as the Kacchā Koṭ (Pl. 1), which on the west and partly on the north is enclosed within a bend of the Tamrā nālā. This area was once defended by a line of earthen ramparts, substantial remains of which can still be seen along the southern banks of the stream, and the question arises whether these ramparts were thrown up before or after the Greek conquest, and, if the latter, whether the Kacchā Koṭ was included within the perimeter of the original Greek city or was added subsequently as a suburb to that city. The view which I formerly took was that the Greek city probably embraced the Kacchā Koṭ as well as Sirkap and was originally surrounded by nothing stronger than a mud wall, as the older city on the Bhiṛ Mound had also been. The stone fortifications of Sirkap were, I inferred, built about the middle of the first century B.C., when the perimeter of the city was proving too extensive to be adequately defended and something stronger was needed than the old earthen ramparts. My reasons for drawing these inferences were twofold: first, because the lower part of the stone wall to a height of 6 or 7 ft. appeared from the offsets or footings with which it is furnished (Pl. 13, *a*) to be intended as a foundation only, such as was naturally to be expected in a wall of this kind; and hence I concluded that the ground-level at the time the wall was erected coincided, not with the bottom of the wall, but with the line of demarcation between the foundation and superstructure some 6 or 7 ft. above it. In other words, that it corresponded with the fourth or Śaka stratum inside the city, not with the

[1] For an interesting picture of townsfolk coming to draw water from the moat outside the city gate, cf. Marshall and Foucher, *The Monuments of Sāñchī*, Pl. XL, Middle Architrave, left end. The *Periplus* (para. 41) mentions very big wells among the mementoes of Alexander's expedition to be seen in the neighbourhood of Barygaza and, since Alexander was never in that neighbourhood, Tarn (p. 148) infers that the wells and other objects referred to were relics of the Greek occupation under Apollodotus. 'What the *Periplus* means', he says, 'is that Greek engineers could dig deeper wells than the people of India could.' But at Taxila there is no evidence to suggest that the Greeks in the Panjāb made any more use of wells than the Indians did; on the other hand, the great wells of Western India (*wav*) were peculiar to that part of the country, and there is no reason to suppose that they were invented by the Greeks.

sixth or Greek stratum. Secondly, because immediately underneath the foundations of the stone wall, a little to the west of the north gateway, my excavations had disclosed the remains of a small water reservoir and connected channels constructed of rubble stone and faced with plaster, which seemingly belonged to a house or garden in the early Greek city, and were, of course, demonstrably older than the wall. Further excavations, however, and a fuller examination of the problem have since compelled me to revise my view. The objections to it are too many; for, if the wall dates from the Śaka period, it means that, though the Greeks went to great pains to lay out this city on the most approved Hellenistic pattern, they nevertheless omitted the most important feature of all—a fortified stone wall to protect it, contenting themselves instead with a primitive rampart of earth; and, inasmuch as no remains of streets and houses have been found in the Kacchā Kot, it also means that the Greeks left a large open space between the inhabited area in Sirkap (which was closely packed with houses) and the earthen ramparts—manifestly a most unlikely thing for them to do. But these are not the only difficulties; for, looking at the block of buildings between First and Second Streets, to the west of the North Gate (Pl. 10), we see that it was substantially narrower than the other blocks to the south and that from the very start the buildings of the sixth and fifth (Greek) strata were planned to fit this narrow space, which is hardly likely to have happened unless there was a wall already in existence which determined the dimensions of the block. For these reasons, and in view of the general probabilities of the case, it seems impossible to escape the conclusion that the Bactrian Greeks were the authors of these stone fortifications, which they built at the time when they transferred the city from the Bhir Mound to Sirkap. That they failed to provide deeper and stronger foundations for the wall on the north side of the city may have been because they regarded them as superfluous in that particular position, taking into account the thickness of the wall and the fact that it rested for the most part virtually on virgin soil; and in this, indeed, they seem to have been justified, since even now the wall, so far as it has been exposed, shows few signs of settlement. On the east side of the city they did, as we have seen, provide deep foundations for the bastions, and may have provided adequate, albeit shallower, ones for the intervening curtain. This, however, is a point that can only be determined when further excavations in this area make it possible to compare the levels of the fortifications with those of the neighbouring buildings in the lower strata.

Acropolis and inner defences

Mention has already been made of the isolated flat-topped hill which forms a conspicuous landmark in the south-west quarter of the city (Pl. 14, *a*, *b*). It is the last eminence of the Hathiāl spur before it finally dies down into the plain and we may safely presume that it served as the acropolis of the city and that it was one of the principal features which induced the Greeks to select the Sirkap site. It seems likely, however, as Cunningham believed, that the whole of the area comprised within the Hathiāl ridges and between them and this hill was fortified as an inner city and stronghold in case of siege. For this purpose an inner line of fortifications was probably carried along the north side of the acropolis and thence along

the foot of the northern slope of Hathiāl, with a gateway set in the depression between the two hills. Cunningham conjectured that this inner gateway stood in a line with the main north gateway of the city, but excavations have failed to confirm this conjecture. It should be emphasised, moreover, that no remains whatever of the supposed inner line of fortifications are now to be seen above ground, but there is no reason why further excavation should not bring them to light. As to the acropolis hill, a broad trial trench sunk from east to west across its top and carried for some distance down its western slope revealed an exceptionally deep accumulation of soil and debris lying above remains of the Śaka-Parthian period (first century A.D.). What lay beneath these remains has not yet been ascertained owing to the prohibitive cost of deeper digging.

Excavations in Sirkap

The principal area excavated in Sirkap is in the lower city, north of the Hathiāl spur. As may be seen from the plan (Pl. 10), my excavations here extend in a broad strip from the northern wall right through the heart of the city, comprising a length of the Main Street nearly 2,000 ft. from north to south, together with a large number of buildings on either side of it and the regularly aligned side-streets between them.

Seven successive strata

In this area seven successive strata of remains are distinguishable, extending from the surface to a depth of between 18 and 23 ft. and representing, from first to last, between three and four centuries of occupation. Of these settlements the earliest (seventh), which is represented by only a few scattered remnants of buildings, dates from pre-Greek times, when Sirkap no doubt formed a suburb of the densely populated city on the Bhiṛ Mound. The sixth stratum is contemporary with the building of the new city by the Bactrian Greeks, and the fifth also belongs to the period of Greek rule (*c.* 190–90 B.C.). The fourth, third and second all date from Śaka times (*c.* 90 B.C.–A.D. 25), but many of the buildings in the second stratum were destroyed by an earthquake about A.D. 30 and rebuilt by the Parthians. The top, like the bottom, stratum is represented by only a few fragmentary remains which are referable to the period following the Kushān conquest (*c.* A.D. 60).

Average depths of settlements

The floor and foundation levels naturally vary to a considerable extent from building to building and not infrequently from room to room, but the following may be taken roughly as the average depths of the successive settlements.

Pre-Greek (stratum VII)	From 18 to 22 ft.
Greek (strata V and VI)	From 13 to 18 ft.
Early Śaka (stratum IV)	From 9 to 13 ft.
Later Śaka and Parthian (strata II and III)	From 2 to 9 ft.
Kushān (stratum I)	From 0 to 2 ft.

Value of stratigraphical evidence

The inferences to be drawn from stratification are far from being as clear-cut and definite as could be wished, and the evidence available must be handled with the greatest caution. This is all the more necessary because of the widespread disturbance of the ground, affecting all the lower strata, which followed the rebuilding of the city after the great earthquake. On that occasion (*c.* A.D. 30), as I have already noticed, the foundations of the new structures were carried down to depths

varying from 6 to 18 ft. below the surface, and along with the debris used to pack these foundations there went also many coins and other small antiquities from the upper levels. Another cause of disturbance in the stratification of the lower levels was the sinking of deep soak-wells and refuse pits. At all times, too, the practice was common of burying valuables deep beneath the ground-floor or basement rooms, with the result that such valuables are sometimes found in the stratum next but one below that to which they properly belong. Add to this that householders not infrequently used the ground-floor rooms of their predecessors' houses as basement *tahkhānas* for their own, and it will readily be understood that there are plenty of loopholes for anyone not thoroughly conversant with the conditions to draw erroneous conclusions from the levels at which minor antiquities have been found. Thus, to take but one example, it might easily be inferred from the depths at which they have been unearthed that some of the jewellery hoards described below belonged to the third rather than the second stratum. On the other hand, when a group of coins is found buried beneath the floor of a house, it is a reasonable inference that it was buried there by an occupant of the house; and when several such groups are found, the inference becomes a virtual certainty. Thus the discovery of more than a dozen different lots of coins of Azes I beneath the floor-level of the fourth stratum leaves no room for doubt that the buildings of that stratum were standing during or after the reign of the king in question, and the discovery of two lots of Maues' coins, one immediately beneath the floor-level of the fourth stratum and the other at a depth of 16 ft. in Block 2A', makes it practically certain that Maues must have been either contemporary with or earlier than Azes I. Naturally, no weight can be attached to the presence of a single coin in this or that stratum, unless it happens to be found embedded in masonry or in some other position which admits of no doubt of the date when it found its way there.

Masonry

Apart from the diaper masonry of the Parthian period to which allusion has already been made and which I shall describe in detail later on, all the remains exposed in Sirkap are constructed of rubble stone. Speaking generally, the best of this rubble masonry—that is, the neatest and most compact—is found in the fifth and fourth strata, while the roughest occurs in the sixth; and it is noticeable, too, that from the third stratum downwards kañjūr stone (cf. p. 476) was used much more freely than in the later strata, but not to anything like the extent to which it was used in the Bhir Mound. These observations, however, do not in every case hold good. Here and there walls can be picked out in the fourth, fifth or sixth strata which are indistinguishable from others in the second or third strata; and the city wall itself might equally well be referred to the fourth as to the sixth period. It would, therefore, be impossible, on the strength of its materials or the method employed in laying them, to affirm of any given specimen of rubble masonry that it belonged to this or that particular period.

Digging mainly confined to Śaka-Parthian stratum

With these general observations we may now turn to consider in detail the remains brought to light in this city. And first let me say that seven-eighths of the digging in this area has been devoted to the Śaka-Parthian structures of the second stratum;

one-eighth only to the earlier Śaka and Greek remains below. It may be that the reader will wonder why more attention has not been paid to the latter. Let me explain the principles that guided me in this matter. All too often I have seen, particularly in the Near East, the unfortunate results of removing stratum after stratum of structural remains before they have been adequately examined and properly understood. This is a common practice among excavators who are pressed for time and money and who are anxious, while they have the chance, to 'get to the bottom of things'. But there is really no excuse for a method of excavation which involves the destruction of what may eventually prove to be highly instructive data, before anyone else except the excavator has had a chance of examining them. In the case of Sirkap I am particularly glad that I decided from the start to resist the temptation to remove any part of these Parthian and Śaka remains until a substantial area of the city had been cleared and ample opportunities afforded to other archaeologists to study it. For had I not done so, I should certainly have missed a number of interesting features, including phenomena arising out of the great earthquake, as well as its bearing on the future of the city's architecture.

Reasons explained

Another and no less cogent reason which influenced me in the course I followed was that it was evident from the outset that the later remains comprised a number of sacred structures, some Jaina, others Buddhist in origin, the destruction of which would have aroused great resentment among the members of those faiths, who are strongly opposed to the demolition of any structure, whatever its state of ruin, which has been erected as a 'work of merit'. This is an aspect of the question that it is particularly necessary to emphasise, because a distinguished English explorer, who should have known better, has recently advocated the wholesale removal of these surface remains in order to open up the lower Śaka and Greek strata. Whatever plans may be made for the further excavation of this site, I hope and believe that the Government will not countenance the destruction of these sacred memorials.

Digging in Greek strata

Up to the present, the chief area in which digging has been carried down to the Greek strata is a little to the west of the Main Street near the northern gateway in Blocks 1′, A′, B′, and C′. In selecting these particular blocks for deep digging, regard was had to the more than usually ruined condition of the remains in the two top strata and also to the facilities which they offered for drainage. Had it been practicable, I should have preferred to choose an area nearer to the city's centre, where more interesting structures may be expected than in the outlying quarters near the city wall. But the difficulty of carrying out deep digging on a large scale near the middle of the site was that it was impracticable to provide for the necessary drainage of the excavation except at a prohibitive cost. This difficulty I was able to overcome at the northern limit of the city by driving a small tunnel under the foundations of the city wall and constructing a culvert to carry off flood-water into the lower ground to the north. As this culvert is 24 ft. below the surface of the mound, it is deep enough to drain any excavation likely to be made in this part of the site, and up to the present has answered its purpose admirably.

The stratification and plans of the buildings revealed in House 2 of Block 1′ will be made clear by a reference to Pl. 15. Of the buildings of the first (Early Kushān) stratum, the foundations of only four rooms (nos. 6, 7, 14, 29) had survived in this plot and these did not extend more than 3 ft. below the surface. In the second (Śaka and Parthian) stratum also the remains were very shallow and much mutilated. In the third and fourth (Śaka) strata the structures are almost identical in plan and their essential continuity is demonstrated by the way in which the later walls rest for the most part directly on the earlier, without any clear break between them, whereas between the second and third strata there is a definite, albeit narrow, layer of debris, showing that the buildings of the latter had entirely perished before the former were raised on the top of them. In spite, however, of this break, the second period building is not very dissimilar in plan from those of the third and fourth periods, but it is noteworthy that it is protracted slightly towards the north, thus encroaching a little on First Street. In the third and fourth periods there were evidently two houses on this plot, divided by a party wall running north and south, and approximately the same arrangement seems to have been repeated in the second period. Belonging to the third period in House 1 was a patch of rough limestone paving in the north-east corner of room 9, and patches of brick flooring[1] in rooms 6 and 12, the latter of which may have been a bath. Room 4 also seems to have had a limestone pavement, though the remains of it were very fragmentary; and in this room there were three rough limestone blocks in a line from north to south, which, with a fourth that no longer exists, may be presumed to have served as the bases of pillars supporting the roof.

Block 1′, House 2

During the fourth period, House 1 appears to have had a large court at the north-east corner, with a thin wall stretching partly across the middle from east to west, designed probably to screen the entrance which led into it from First Street. A somewhat similar arrangement, it may be remarked, is found in certain prehistoric Indian houses at Mohenjo-daro, but I do not recall any other example of the kind belonging to the historic age. In this, the fourth period, there seems to have been an entrance to House 2 by way of a passage from Second Street, but in the third period this passage was walled up.

Descending to the fifth (Greek) stratum, we find that the plot is no longer occupied by two houses, but by a single one more regularly laid out (Pl. 12, *c*), with eleven rooms ranged on the four sides of a central courtyard. This house, indeed, is the best planned of all in the six strata, and the rubble masonry of which its walls are built is also the most solid and compact. In room 8 of this house was brought to light a colossal store-jar of coarse fabric, and in room 2 a group of six punch-marked coins;[2] other coins that were also found at this level were issues of Apollodotus I, Philoxenus, Maues and Azes I, besides one local Taxilan. To the east of this building, in what was evidently a court or room of an adjoining house, was a small semicircular fireplace (*chulā*) constructed of rough limestone blocks lined

[1] The size of the bricks is 10 × 7 × 2½ in.

[2] No. '28–2,794. For particulars of these coins, see p. 755, nos. 87, 88, 95, 101–3.

with clay (Pl. 13, *b*); and in the same court I came across a neolithic celt of dark green epidote quartz ('Stone Objects', ch. 25, no. 2 and Pls. 140, *b* and 143, *a*). The sixth stratum (Early Greek) starts from an average depth of some 17 ft. below the surface. In this stratum, curiously enough, we again find two houses with a party wall between them, the foundations of House 2 descending 3 ft. deeper than those of House 1; but in this case the party wall is set some 10 ft. farther east than in the fourth stratum and in other respects the plans are dissimilar. In House 1 there is a covered drain leading from room 7 through room 10 into Second Street; and there is another drain lined with slate which passes beneath the floor of rooms 6 and 7. This latter drain, however, is substantially deeper than the former and may have belonged to a still earlier building—a remark which also applies to the short length of wall between room 12 and court 13 in House 1, the bottom of which is 19 ft. below the surface.

The remains below the sixth stratum in this block, as everywhere else, were very scanty, consisting only of three small sections of a rubble wall running east and west, and what appears to have been a patch of pavement of smooth river pebbles laid at a steep slope on a ramp, a few yards north of it. About 4 ft. below the base of the walling was a patch of rough rubble pavement of still earlier date; and probably contemporary with it is a short section of a road paved with pebbles, which ran along the south side of the city wall, ascending at a slight incline from east to west. This road bore no relation, of course, to the city wall, which was not built until later.

A fair idea of the remains comprised in this house is afforded by the two photos reproduced in Pl. 16, *a*, *b*. The former shows the third and fourth strata from the north-east in the foreground, with walls of the second (Śaka-Parthian) stratum above the pathway in the distance; the latter is a view of the same remains from the north-west. There is an instructive illustration also in Pl. 20, *a*, which gives a view of the side of the adjoining house, and shows very clearly how the walls of the third, fourth and fifth strata are superimposed as well as the character of their rubble masonry.

Of the successive layers of remains exposed in the neighbouring blocks, A′, B′ and C′, some idea will be obtained from the plans, sections and photos reproduced in Pls. 17, 18 and 19. In these blocks only the remains of the three topmost levels have been systematically dismantled and removed, since the experience gained in the neighbouring block on the north hardly seemed to justify the removal of the earlier ones. Consequently the plans of the fifth and sixth (Greek) strata are not as clear as they might otherwise have been. It is quite evident, however, that all the buildings in this particular area consist of moderate-sized dwellings like those in Block 1′, and it is more than doubtful if the removal of the fourth and fifth strata walls would produce any further facts of material interest. In the case of Block 1′, it certainly did not do so, and since the sixth stratum proved to be more mutilated than the two preceding ones the latter were sacrificed to little purpose.

Apart from the minor antiquities, which throughout the whole of the Sirkap site are of the greatest interest, the excavation of dwellings like these, of which virtually nothing except rubble foundations has survived, cannot contribute greatly to our knowledge. There are four points, however, which deserve to be noticed: (1) The lay-out of the main and side-streets remained to all intents and purposes the same from the foundation of the city by the Greeks down to its abandonment under the Early Kushāns. (2) Consequently, there was little variation in the alignment of the outer walls of the houses, notwithstanding many changes in their interior planning. (3) The Greek houses, like the earlier ones on the Bhir Mound, were planned on the principle, universal in the Orient, of the open courtyard flanked or encompassed by chambers, and this principle continued to be followed down to the latest period of the city's occupation. But the Greek houses, like the Greek streets, are much more symmetrical in plan than those which preceded them on the Bhir Mound, and the example set by the Greeks in this matter appears to have influenced their successors, the Śakas, for a time. Later on, in the third and second strata, the plans tended to become increasingly irregular and slovenly until the Parthian conquest, when a greater measure of symmetry was again introduced. (4) As already observed, the rubble masonry of the sixth stratum is markedly rougher than that of the fifth stratum, and, so far as my observations go, the planning also was less careful in the former than in the latter stratum. From these facts, as well as from the shallow foundations of the city fortifications, it may be inferred that in the building of the original city on Sirkap the Greeks were compelled to work in a hurry, but that a generation or more later, when they were well settled in Taxila, they improved upon their initial efforts.

MINOR ANTIQUITIES

OBJECTS FROM THE SIXTH AND FIFTH (GREEK) STRATA

Coins

Most numerous among the minor antiquities from the Greek strata are the coins, which number eighty-nine. This is a small number compared with the total of 7,665 coins found in Sirkap, but once again it is necessary to remind the reader that the area excavated in these deep levels is only a very small fraction of the whole. Were the Greek remains to be opened up to the same extent as the later Śaka and Parthian have been, there is little reason to doubt that a plentiful harvest of coins, as well as of other antiquities, would reward the digging.

Of the eighty-nine coins recovered from the Greek strata less than half were actually current during the Greek supremacy at Taxila. The remainder are mostly issues of the early Śaka and Parthian kings, Maues, Vonones, Śpalahores and Azes I. Some of these had evidently been buried at some depth beneath the floors of Śaka houses in the fourth stratum, and consequently were found, not in that stratum, but in the one below it, just as various hoards of jewellery and other antiques dating from the Parthian period were disinterred from the preceding Śaka level, sometimes 5 or 6 ft. below the floor of the Parthian house to which they

actually belonged. A few of the coins in the Greek strata, however, notably three of Kadphises I, owe their presence there, as I have already explained, to the unusually deep disturbance of the ground caused by rebuilding operations after the great earthquake in the first century A.D.

Under the rule of the Greeks and for long afterwards the people of Taxila continued to make use of the old punch-marked and Local Taxilan money which had been current before their arrival, and it is possible even that they went on coining the latter concurrently with the new Greek money, for no less than 502 coins of the 'Local Taxilan' type have been found among the ruins of Sirkap: three times as many, that is to say, as have been found in the Bhir Mound.

As to the new Greek money, it is discussed in detail in the chapter on 'Coins' (ch. 38), and there is little that need be said here. Its practical and economic advantages over the older currencies are obvious. In place of a complex group of markings, the meaning of which could only have been intelligible to the initiated, the new Greek coins for the most part bore on their face a simple portrait of the ruling sovereign in whose name and under whose guarantee they were issued, together with his name and title, both of which were repeated in Greek and Kharoshṭhī—the local script in vogue in the North-West. But it was not only these practical features and the fact that the Greek rulers were careful to maintain the metal and weight of their coins up to standard that made them popular far beyond the boundaries of the countries where they were issued. In themselves, the coins struck by the Greeks in India were objects of interest and beauty: not, it is true, as beautiful as the coins struck in Bactria, which were unsurpassed in the ancient world, but nevertheless far superior in design and execution to anything of which the Indian artist was then capable. I lay especial stress on the artistic aspect of these Greek coins because of the valuable part they must have played in disseminating a knowledge of Greek engraving in India and particularly in helping the Indian sculptor to surmount the initial difficulties connected with the technique of relief-work. I have discussed this subject at some length in the *Monuments of Sāñchī*, where I have drawn attention to the phenomenal advance made by Indian relief-sculpture during the period when the Greeks were in occupation of the Panjāb. It is impossible to resist the conclusion that that advance was due to contact with the accomplished artistry of Greece and in a large measure to the object lessons afforded by textiles, coins, terra-cottas and other small articles which found their way into the marts of Central India and Hindustān, but most of all to the coins. That is not to say that Greek art had any material influence on the underlying character of the early Indian School, which from start to finish was essentially Indian, but simply that Indian sculptors learnt much of their technique from the Greek.

Group of objects from the Greek level

Apart from coins, only one group of objects was found in the Greek level. It had been buried beneath the floor in Block C′ (square 47·48·95′) at a depth of 14 ft. 4 in. below the surface (Sk. 216 1 to 13). As it was purposely hidden, this group may have been buried at a depth of several feet beneath the floor and, that

being so, may belong to the fourth (Śaka) rather than the fifth (Greek) stratum. The articles comprised in it seem to me to date from the first rather than the second century B.C. Most interesting among them are several vessels made of copper. The articles include:

(*a*) A spouted vessel with loop-handle, of typical Indian shape ('Copper Objects', ch. 28, no. 259 and Pl. 174, no. 259 and Pl. 183, *b*); (*b*) a three-legged incense-burner, with a long handle riveted to the rim (*ibid.* no. 320 and Pl. 176, no. 320); (*c*) a standard offerings-bowl (?), supported at each corner of the base by a bird with outspread wings (*ibid.* no. 323 and Pl. 176, no. 323 and Pl. 184, *m*); (*d*) the base of another standard bowl decorated with fretted circlets (*ibid.* no. 327 *ad finem*); (*e*) a *handī*-shaped inkpot of copper (*ibid.* no. 329, *a*); (*f*) a small bell of truncated-cone shape with cordon moulding around the body (*ibid.* no. 345, *a*); and (*g*) six inverted-bowl shaped bells with ring-handle at top and iron clappers (*ibid.* no. 350, *a*). Other articles belonging to this group were: (*h*) Four legs of an image throne (?) of wood covered with copper or brass sheeting which is decorated with acanthus designs and mouldings. The legs are 2 ft. 1 in. long and made of deodar wood, but wood and metal are both much decayed (Pl. 20, *b* and Pl. 210, *h*). (*i*) Three oblong playing-dice of bone with one to four marks on the four sides. Length 3·75 in. ('Objects of Ivory and Bone', ch. 32, no. 92; cf. Pl. 200, *p*). (*j*) A miniature earthen *gharā*. Height 3 in. (cf. 'Pottery', ch. 23, Class XXV). (*k*) A terracotta bead or spindle whorl of truncated-bicone form, collared and decorated with incised linear pattern on one side. Length 1 in. (*l*) Ten gadrooned beads of blue glazed faience, from which the colour has mostly gone. Diameter 0·3–0·4 in. (cf. Beck, *Beads from Taxila*, Pl. x, 7; and for similar beads from Chārsada, *A.S.R.* (1902–3), p. 158 and Pl. XXXVIII, *b* 2). (*m*) The polished core of a shell. Diameter 0·55 in.

The more important articles in this group, notably the spouted pot, incense burner and offerings-bowls—and perhaps the bells also—were probably of a ritualistic character and may be presumed to have come from a sacred shrine. Some of the objects are Indian; others Greek or Western Asiatic. The spouted pot is a definitely Indian type of vessel, used in ceremonial ritual and familiar to us from the reliefs of Bharhat and Sāñchī. On the other hand, the three-legged incense-burner (*b*) is just as certainly a foreign pattern. This and two other specimens—all three from Sirkap—are the only ones known in India, and in the two other specimens ('Copper and Bronze Objects', ch. 28, nos. 321, 322 and Pl. 176) the handles take the form of rampant or winged lions of an obviously Western Asiatic or Hellenistic character. Similarly there can be no doubt that the standard incense-burner (*c*) and the broken base of another (*d*), like other similar vessels found only in Sirkap (*ibid.* nos. 324–7 and Pl. 176), are of western origin. The same remark also applies to the inkpot (*e*), which is the first of a series of these vessels, some of metal, others of terra-cotta, others of stone, which have been found in the Greek, Śaka and Parthian cities but nowhere else. Of the bells, seven in number (*ibid.* nos. 345, *a*, 350, *a*) one cannot speak with such certainty. Small hand bells, for use especially in religious ceremonies, were probably as common in India as in the West and fashioned perhaps in a variety of forms. It is noteworthy, however, that both the truncated-cone type with cordon moulding (*f*) and the inverted-bowl type (*g*), which was afterwards to become so common, are now seen at Taxila for

the first time, and it is possible therefore that they, too, were of western origin. The metal-covered legs of a throne or bed (*h*) with their characteristic mouldings and acanthus decoration are so obviously Hellenistic in style that they admit of no argument. The bone playing-dice (*i*) are of the oblong form which has continued in use up to the present day and may be indigenous, but it is noteworthy that the cubical form of die was used during the Chalcolithic Age at Mohenjo-daro and Harappā.[1] No specimens of any dice, either cubical or oblong, have been found in pre-Greek strata of the Bhiṛ Mound.

Passing over the articles (*j*), (*k*) and (*m*) as of no particular significance, there remains from this group the faience beads (*l*). As to these, the manufacture of blue-glazed faience was practised on the banks of the Indus as far back as the Chalcolithic Age,[2] as it was also practised in Mesopotamia and Egypt and other countries, but we have not yet the data for determining whether the art survived without interruption until the historic period or whether it was reintroduced from the West. The probability is that it did survive but was not practised on as large a scale as it had been in prehistoric times. It is to be noted that the faience beads found in the Bhiṛ Mound are very few in number.

We may pass on now to the other antiquities found scattered about in the debris of the two Greek strata. Owing to the very limited area excavated they are, as might be expected, relatively few.

Pottery

Of the pottery the principal examples will be found listed in chapter 23, nos. 5, 17, 28, 83, 122, 168, 181, 182, 196, 239, 240, 241. Some of them are purely Greek wares—notably, the specimens of 'black varnished' ware referred to in my opening remarks on Class XXXII, and the two specimens (nos. 239, 240) of Greek embossed ware, the former decorated with a vine (Pl. 128, no. 239 and Pl. 130, *l*), the latter with a horse in low relief (Pl. 128, no. 240 and Pl. 131, *a*). The influence of Greek moulded ware is also seen in the highly interesting fragment no. 241—evidently a local imitation—decorated with bands of Indian dancers, warriors on horseback, etc. (Pl. 131, *b*). Other characteristic Greek shapes are a handled jug of the Class XIII, *a* or *b* type (*A.S.R.* (1929 30), p. 92, no. 123) and the amphora no. 83.

Some of these indigenous vessels, however, now show new developments in shape and decoration. Thus no. 5 (Pl. 121)—a barrel-shaped store-jar with carinated bottom and shoulder—marks a new departure from the older types of store-jars found in the Bhiṛ Mound, which have an elliptical elongated body swelling at or near the middle (e.g. Pl. 121, nos. 1, 2). Another new shape is the narrow-necked oil-flask, no. 17, with slightly ovoid body and flat base as distinguished from the spherical type with round base of the previous century; and a new type of decoration is the incised cross-hatching on the *ghaṛā*, no. 28 (Pl. 121) in place of the older vertical combing (Pl. 121, nos. 26, 27).

[1] *M.I.C.* pp. 551 2 and Pl. 153, nos. 7–10; *Harappā*, pp. 456–7 and Pl. 120, nos. 46–8, 51–4.

[2] *M.I.C.* pp. 32, 37, 205, 221, 229, 346–53, 365–7, 394–6, 514, 533, 570–6, 579–81, 686–8.

Among other pieces of pottery from the Greek strata may be noticed a *haṇḍī*-shaped colander or strainer (Pl. 124, no. 122); a flesh-rubber (no. 168); two plummets, one in the shape of a truncated wedge, the other rectangular (nos. 171, 171, *a*); two miniature vessels (nos. 181, 182), and a dome-shaped lid (Pl. 126, no. 196).

The same mixture of Hellenistic and Indian types is to be seen among the terra-cottas. Among the former is the head of a female figurine with an engaging smile ('Terra-cottas', ch. 24, no. 49 and Pl. 133, nos. 49, 49, *a*), which belongs to the same class as the three somewhat more ornate heads, nos. 46, 47 and 48, from later strata in Sirkap. Another finely modelled bit of work (*ibid.* no. 53) found in the fourth stratum but almost certainly Hellenistic, shows the head and shoulders of a gorilla-like figure evidently belonging to the Simidae family and most probably an orang-utan. If so, it would constitute some slight evidence that Java and Sumatra—the present habitat of the orang-utan—were not unknown in those days to India, but the identification is too uncertain for any inference of this kind to be based on it.[1] Terra-cottas

Among local Indian products is the primitive figurine of the 'Nude Mother' or 'Earth goddess' type from the lowest stratum (*ibid.* no. 2 and Pl. 132, no. 2), which is akin to others of this type found in the Bhir Mound and dating from the third century B.C. Another is a male figure seated cross-legged (*ibid.* no. 32, *a*);[2] a third is a votive relief of a woman holding a child on her hip (*ibid.* no. 25 and Pl. 132, no. 25), almost identical with the votive plaques nos. 23 and 24 from the Bhir Mound. Some of these typical Indian terra-cottas may date from the pre-Greek period, when Sirkap was a suburb of the Bhir Mound city, but the local craftsmen must, of course, have gone on producing their own indigenous wares throughout the whole period of foreign domination. The wreathed head with a moustache (no. 52 and Pl. 134, no. 52) is evidently a product of local craftsmanship under decaying Greek influence, like the stucco heads nos. 11 and 12 (Pl. 148). Probably it is a stray from one of the upper levels.

Of the remaining terra-cottas from the Greek strata most are toy animals, rattles, whistles or dice. Nos. 70 and 71 (Pl. 134) are doves once fitted on wheels and perhaps attached to a chariot; nos. 103 and 104 are also birds with widespread wings but without wheels. No. 115 is a rattle in the form of a pomegranate; no. 119 a whistle in the shape of a sling bullet; and no. 125 a playing-die. Whistles have not been found at all in the Bhir Mound. Rattles do occur there, but always in the form of birds; the later ones from Sirkap are in quasi-human or animal form or else shaped like vases or, as in the two from the Greek strata, like pomegranates. With these must be mentioned also two heads of toy horses[3] not included among the terra-cottas in ch. 24. In both, the bridle is decorated with bosses and crowned in the Indian

[1] Assuming that an orang-utan was brought as a curiosity, as it might well have been, to India, it is likely enough that pictures or models would be made of it, just as they were made of the newly imported American turkey in the reign of Jahāngīr.

[2] Cf. *A.S.R.* (1928–9), p. 63, no. 92.

[3] Cf. *A.S.R.* (1929–30), p. 91, no. 115. (Sk. 2,648; sq. 24·92′; length 3·5 in.) and no. 116 (Sk. 2,763; sq. 35·89′; length 3·5 in.).

fashion with a plume, like the heads nos. 88 and 89 (Pl. 135, *e*, *i*); both, too, are provided, as in those examples, with a transverse hole through the mouth for a string.

Lastly it remains to notice two small ritual tanks of terra-cotta (nos. 154, 163) of the kind described at length in ch. 24, Class XXIII. The former (Pl. 136, *s*) is of the circular-bowl type, of which two examples were found in the third century B.C. stratum of the Bhir Mound. The other (Pl. 136, *z*)—a fragment only—is more elaborate, being provided with a circular shrine raised on cross-walls at its centre. Probably the tank itself was circular and would thus mark an intermediate stage between the tanks of type A and type C.

Stone To the use of stone for the manufacture of domestic articles, such as dishes, trays, cups and the like, the Greeks gave a noticeable impetus. This was due in a large measure to their employment of softer varieties of stone, instead of the hard granite, gneiss, basalt, hornblende, quartzite and basanite, in the working of which the Indian lapidary had shown such surpassing skill. Except for the manufacture of pestles and mortars and pivot stones, for which they are indispensable, these harder stones now disappear from general use and their place is taken by schist or micaceous schist and later on by slate and phyllite. Thus the dishes nos. 38 and 39 (Pl. 140, *n*) from the Greek level are both made of grey schist, and the latter, be it observed, is a characteristically Greek type known as a *phiale mesomphalos*, which at Taxila is represented by several other specimens fashioned out of copper, bronze, silver and earthenware. Another typically Hellenistic object, though found in the fourth stratum, is the toilet-tray no. 62, with a love scene carved in its centre (Pl. 144, no. 62). Many such trays have been found in the Śaka and Parthian levels of Sirkap and are traceable to a Hellenistic origin, but none are so distinctively Hellenistic as this one, either in point of style or in the technical handling of the figures, which in this example stand out on the plain background as if they were in the round rather than in relief. The following specimen of these toilet-trays (no. 63 and Pl. 144, no. 63), though found in the later Greek stratum, is almost certainly a stray from the Śaka stratum above and assignable to the latter part of the first century B.C. Other objects that are quite Greek in character are the mirror-handle of hornblende schist no. 156, from the seventh stratum (Pl. 142, *hh*), and the two stone moulds nos. 142 and 143 (Pl. 142, *y*, *x*), the former of claystone intended for the casting of a pair of finger-rings, the latter of steatite for the casting of a small beaded medallion. On the other hand, the fragmentary agate vessel (no. 57) was presumably of Indian workmanship, since it was from India that the Graeco-Roman world drew its supply of such vessels. Indian too, no doubt, is the roundel of porcelain-agate (cf. ch. 25, no. 138), which is identical with the roundels of this unique stone unearthed in the Bhir Mound.

Metal Metal objects of the Greek period are few. Of silver, there are none; of gold, a couple of hollow spherical beads;[1] of iron, a single object, viz. a stonemason's bare metal, round-bar chisel with double slope and straight cutting edge ('Iron', ch. 27, no. 119 and Pl. 166); of copper and bronze, not more than a score in all,

[1] Cf. *A.S.R.* (1929–30), pp. 90, 91, nos. 101, 102.

including the sixteen pieces in the group already described. Of the four remaining pieces—a bell-handle, a plain bangle, an unguent flask and a finger-ring—the flask ('Copper and Bronze', ch. 28, no. 204) deserves particular notice because its shape, material and technique all combine to indicate its Hellenistic character. Its shape speaks for itself. With its flared base, long neck and wide-projecting brim, it is obviously quite foreign to India. Then an analysis of the metal (*ibid.* Analysis Table III (p. 568), no. 21) has shown that it contains a large percentage of lead as well as tin (7·78 and 7·34 % respectively)—an alloy which appears to have come into vogue during the Greek period, the advantage of adding the lead being that it rendered the metal less brittle and easier to cast than the ordinary Indian bronze of that period, which contained from 21 to 25 % of tin. Bronze containing from 8 to 12 % tin without lead, which, like the modern gun-metal, possesses both strength and elasticity, was also manufactured at this time, but only rarely, as its melting-point was unduly high. It is likely enough that this kind of alloy was known to the Indian metal-worker as well as to the Greek. The bangle referred to above (Sk. '29–2,681: Analysis Table IV (p. 568), no. 29) may also be Greek rather than Indian, but this is by no means certain. It contains 19·70 % zinc with 5·84 % lead to 73·72 % copper and is thus definitely to be classed as brass, not bronze. An older specimen (no. 28), but one which might equally well be Greek, comes from the uppermost stratum of the Bhir Mound; it contains 34·34 % zinc and 3·08 % lead. Brass (ὀρείχαλκος) was known to the Greeks at least as early as the third century B.C. (pp. 570–1 *infra*), but the knowledge of it may have come from India. 'Packtong' bronze (Chinese *pai-t'ung*)—a compound of copper and nickel—also occurs at Taxila from the third to the first centuries B.C., and in this case there can be no question that it was introduced by the Bactrian Greeks, since some of their kings—Euthydemus, Agathocles and Pantaleon—used nickel, which they appear to have obtained from Yunnan in China, for their coinage (Analysis Table V, p. 569).

To revert, however, to the unguent flask no. 204. Its essentially Hellenistic character is further demonstrated by the technique of the process known as 'cire perdue', which was employed in the casting of this and many other objects. In Greece this process, which the reader will find described in the Introduction to chapter 28 on 'Copper and Bronze Objects', was used largely for the hollow casting of metal images. At Taxila none of the images hitherto found was large enough to be hollow cast, but many of the household vessels, such as this one, were fashioned in this way. The finger-ring mentioned above is a plain hoop ring of bronze inset with glass paste (Pl. 198, no. 37).

Bone and ivory

Apart from the playing-dice already referred to, only two objects of bone or ivory come from the Greek strata.[1] These are: a spoon with shallow bowl ('Bone and Ivory', ch. 32, no. 67) and an ornamental hair-pin of ivory with head in the form of an inverted comb (*ibid.* no. 26). The comb ornament in the latter may have been

[1] To these should perhaps be added the handle or pendant with two philosophers' heads ('Bone and Ivory', ch. 32, no. 120).

substituted for the familiar 'open hand' motif—of talismanic virtue—sometimes found on Greek and Roman pins, but the comb, as a decorative device, was well known in India as far back as the Indus period, and may also have had a talismanic value.

Beads Of the beads of this period little need be said. Beads were not a type of ornament that appealed greatly to Greek taste, and those found among the Greek remains in Sirkap, besides being few in number. are generally similar to the beads which preceded or followed them. Of the sixty-nine specimens recovered, twenty-five are of glass, sixteen of shell, thirteen of faience, twelve of semi-precious stones, two of coral and one of copper. The most favoured shapes are the spherical (twelve) and gadrooned (ten), followed by the disk (eight), oblate (five), barrel (five), and cylinder (four). Other shapes are the hexagonal, collared and granulated barrel (one each), domical (two), wedge (three), bicone (one), hexagonal truncated bicone (one), scaraboid (two), plano-convex (one), cornerless cube (three), 24-sided (one) and fist or *fica* (one). In eight of the glass beads the colour is no longer recognisable; of the rest, eight are blue, six opaque yellow, one blue with yellow waving, one black and one red.

Of the semi-precious stones four are carnelian—one etched in white—two jasper, and the remainder single specimens of agate, amethyst, chalcedony, lapis-lazuli, colourless and glazed quartz. Of the thirteen faience beads, ten are gadrooned, two are cornerless cubes and one a short barrel with granulated drops on the surface.[1]

MINOR ANTIQUITIES

OBJECTS FROM THE FOURTH (EARLY ŚAKA) STRATUM

Coins Besides the coins of the Śaka kings found actually in the Early Śaka stratum, a number of them, as I have already noticed, were found in the lower strata. Some of these had without doubt been buried intentionally under the floors of the fourth stratum houses, but it is probable that houses of the fifth (later Greek) stratum were occupied by the Śakas for some years prior to their destruction, which would not thus have taken place until about the middle of the first century B.C. This would account for the fact that a somewhat larger number of Maues' and Vonones' coins were found in the fifth and sixth strata than in the fourth.

Some of the Śaka coins, which were found beneath the floor-levels of the fourth stratum, occurred in small lots of two or more, which could not well have been 'strays'. Thus, there was one lot of Maues of the 'Poseidon and Vine-goddess' type at the 16 ft. level and another lot of the 'Elephant head and caduceus' type at the 12 ft. level. Two other types of this king represented by single specimens which were found either in or below the fourth stratum were 'Elephant and humped bull' and 'Artemis and humped bull'.

[1] For further information regarding these beads, see chapter 37, and the Stratigraphical Tables C and D (pp. 734-7).

Altogether, the coins of Maues recovered from Sirkap numbered 107 and comprised fifteen different types, several of which are very rare. These are discussed in chapter 38 (pp. 771–2).

The coins of Vonones with Śpalahores from Sirkap numbered twenty-eight, all of the 'Heracles and Pallas' type (R.U.C. no. 132; *P.M. Cat.* XIV, 379). Six of them came from the Greek strata, four from the Early Śaka, and the rest from the upper strata. Of the coins of Śpalyris with Śpalagadames ('King on horseback and Heracles' type—cf. R.U.C. no. 134) there were only four specimens, one from the Greek and three from the first and second strata.

Of Azes I there were seventeen lots in all between the 14 and 10 ft. levels, viz.:

Level	Lots	Types
14 ft.	1	(*a*) Mounted king and Zeus standing (*b*) King seated and Hermes
12 ft.	6	(*a*) and (*b*) same as above (*c*) Mounted king and Pallas (*d*) Ditto and Zeus Nikephoros (*e*) Enthroned Demeter and Hermes (*f*) Elephant and bull
11 ft.	4	Same as (*b*), (*c*) and (*f*) above, (*g*) Bull and lion
10 ft.	6	Same as (*a*), (*b*), (*d*) and (*f*) above

As to the above types, we can be fairly sure that they were struck by Azes I about or not long after the middle of the first century B.C. Other types from these low levels represented by single coins which might or might not have been 'strays' are: (*h*) 'Mounted king and bull' (three specimens); (*i*) 'Lion and Demeter' (two specimens); (*j*) 'Lakshmī' or 'Māyā and bull' (one specimen). It may also be observed that, of the copper coins of Azes I found at the Dharmarājikā, six are of type (*a*), ten of type (*b*), four of type (*c*) and one each of types (*f*) and (*g*).

These coin-finds settle once and for all the question whether there were or were not two kings bearing the name of Azes. For it is clear that the Azes who struck these coins when the buildings of the fourth stratum were in occupation, could not have been identical with the Azes who was 'king of kings' when Aśpavarma, uncle of Sasan, was *strategos* in the second or third decade of the following century. It follows, therefore, that there must have been two kings bearing the name of Azes and that the one was probably a grandson of the other. In Sirkap 2,839 coins of these two kings have been recovered, of which seven only are pure silver. The silver specimens comprise two of the 'Zeus and Nike' type[1] and five of the 'Mounted king and Zeus standing' type.[2] The remaining 2,832 coins comprise twenty-two different types, sixteen of which are probably referable to Azes I and two to Azes II, while four appear to have been struck by both kings (ch. 38, pp. 772–3, 780–1).

A point that can hardly be without significance is that neither in the fourth nor in any other stratum of the particular blocks we are now discussing have any coins of Azilises been found, and that not more than eleven coins in all of that

[1] R.U.C. ch. 39, no. 146. [2] *Ibid.* nos. 158–60.

king have been recovered from the whole of Sirkap, compared with 2,839 of Azes I and II. I do not venture to offer an explanation of this phenomenon. Azilises' coin types indicate that his empire included the Paropamisadae, Gandhāra and Arachosia as well as the Eastern Panjāb, and there can hardly be a doubt, therefore, as to his having ruled over Taxila. What is also remarkable is that the eleven coins, all copper, found in Sirkap, comprise no less than nine different types (ch. 38, p. 781).

Anyone turning to the series of Śaka coins illustrated on Pls. 238 ff. can see at a glance that from first to last they were essentially Greek in character, but that the art of the coin-engraver, which had already declined under the Greek princes south of the Hindu Kush, went on declining more and more under the Śakas who succeeded them. This progressive deterioration of Greek design and Greek workmanship is specially noticeable in the case of coins, gems and seals, because in these particular domains Greek artists and Greek craftsmen were so immeasurably superior to the Indian that there was virtually no competition between the two. In other domains it was not so. The local Indian potter, the terra-cotta maker, the jeweller, the wood and ivory carver and the metal-worker, all had their own age-old traditions and, though they were much inspired by Greek ideas and given to copying western models, they still went on producing their own wares, with the result that the steadily waning Greek influence, though still patent enough, is by no means so conspicuous in these fields as it is in that of the coins.

Pottery Typical examples of the pottery referable to the early Śaka period are described in the chapter on 'Pottery' (ch. 23, nos. 18, 19, 38, 89, 95, 98, 101, 118, *a*, 138, 142, 155, 164, *a*, 217, *a*, 218, 222, 230, 243, 248), and will be found illustrated in Pls. 121–31. As in the preceding Greek period, the local potters continued to produce the ordinary kinds of domestic vessels, most of which are still familiar in the Panjāb, namely, store-jars, water-pots, vessels for milk, wine and oil, cooking-pots, jugs, cups, bowls, basins, pans, dishes, etc. Among such purely Indian wares are to be counted the store-jar no. 4 (Pl. 121), the two bowls, one shallow and one deep, nos. 95 and 98 (Pl. 124), the funnel, no. 155 (Pl. 126), the crucible, no. 164, *a* and the cup of red-and-black Indian ware no. 218 (Pl. 127). On the other hand, Greek or Graeco-Bactrian influence is manifest in the oil or unguent flasks (Pl. 121, nos. 18, 19) of Class B type, which had superseded those of Class A found in the Bhir Mound; in the beakers with deep flared mouth (Pl. 124, no. 89); in the earthenware inkpots (Pl. 125, no. 142,) copied from the metal ones introduced by the Greeks ('Copper and Bronze Objects', ch. 28, nos. 328–39); in the amphorae nos. 222 and 248 (Pls. 127, 128) and in the round water-bottle with pierced lugs on each side, no. 243. The bell-shaped amphora no. 222, like the somewhat later one no. 221, is essentially Greek as to its shape and ornamental swags, but the technique of the black-on-red painting goes back to pre-Greek times in India. The water-bottle no. 243 is also a western type of vessel, though the moulded decoration on its outer face is probably local, and the lamp no. 138 (Pl. 125), with three places for wicks and a water-cooled reservoir underneath, is probably a foreign pattern.

Nos. 230 and 231 (Pl. 128) are shallow plates of grey ware on which the designs were roughly incised on the surface and picked out with red paint. Very few fragments of this ware have been found, and it is hardly likely, therefore, to have been made at Taxila itself, though it may well have come from some other spot in the Panjāb or North-West. The plates look rather like crude attempts at imitating some Hellenistic silver plates such as those illustrated on Pl. 189, no. 14, *a*, *b*, though the design of the latter is quite different.

Terra-cottas

The terra-cottas of this early Śaka period are few and call for little comment. Apart from toys, there are only two figurines, nos. 31 and 33, and the mould of a third, no. 146. The first of these (Pl. 133, no. 31) is a standing male figure in the round wearing a *chitōn* and *himation*, and in other respects characteristically Hellenistic. No. 33 (Pl. 133) is also in the round and betrays Hellenistic influence in the modelling, notwithstanding its oriental pose. No. 146 (Pl. 136), on the other hand, is the mould of a female figure in relief, which is typically Indian in every detail of dress and style. The toys comprise two plumed heads of horses (no. 88)[1] similar to those from the Greek stratum of which mention has already been made; a crudely-fashioned monkey (Pl. 135, no. 105); a bird-rattle in the form of a hen with stand and base (Pl. 135, no. 110); and a whistle shaped like a barrel bead with collared ends (Pl. 135, no. 120). As previously noticed, toy whistles did not make their appearance at Taxila until after the Bactrian Greek occupation.

Stone objects

More interesting than the foregoing are the carvings and utensils of stone from this early Śaka level. The former comprise seven toilet-trays embellished with figural reliefs ('Stone Objects', ch. 25, Pl. 144, no. 63 and Pl. 145, nos. 78, 79, 82, 83, 84), and in all probability a female statuette of chloritised mica schist in the round ('Stone Sculptures', ch. 36, nos. 4 and Pl. 211, no. 4, *a*, *b*), though the last-mentioned was found in the succeeding stratum. These carvings are the only ones known to us that can be referred definitely to the Śaka period, and they are valuable for the light they throw on the initial development of the Gandhāra School, from which they appear to have emanated (cf. pp. 493 ff., 692 ff.). By the middle of the first century B.C. such Greek art as had survived in the North-West was at a very low ebb, and in these pieces we see the first efforts on the part of the sculptors of Gandhāra to give that art a new lease of life on Indian soil. At the outset they do very little but copy, as best they can, such poor western models as are available to them, but in a little while we shall find them putting their art at the service of the Buddhist church and enriching it with countless motifs and concepts drawn from the inexhaustible storehouse of the Early Indian School as well as from the ever increasing number of Graeco-Roman *objets d'art* that found their way to the North-West during the Parthian regime, and thus evolving a school of their own creation, which was not only essentially national—and by that I mean essentially characteristic of the country of Gandhāra with its mixed eastern and western culture—but peculiarly adapted also to the needs of Buddhism and destined

[1] For the second head from the Śaka stratum, with bridle adorned by bosses and plume, cf. *A.S.R.* (1929–30), no. 167. (Sk. 2,430; sq. 22·91′; 10 ft. below surface.)

to exert the widest influence on the future of that religion. At the moment when these particular carvings were produced, the art of Gandhāra was passing through the same archaic phase that all nascent art has to pass through before it can master its materials and achieve freedom and naturalness in the modelling of figures. Thus the female statuette (Pl. 211, no. 4) is a typical example of the rigid constraint imposed on primitive figure sculpture by the law of frontality; and in the toilet-tray no. 63 (Pl. 144) we have a praiseworthy effort to copy a Hellenistic original but obviously without the appreciation of form and technical skill which were necessary for the task. In like manner, the other specimens of these toilet-trays (nos. 78, 79, 82, 83, 84) show by the crudity of their carvings how difficult the sculptors of Gandhāra at this period were finding it to imitate Hellenistic work. Within a generation, however, they had made sufficient progress, as we shall see, to produce figural carvings which, though still of rough workmanship and cumbersome proportions, were characterised by a definite style of their own —a style which was thenceforward to become one of the distinguishing attributes of the Gandhāra School.

Other objects of stone from the same Śaka level comprise: (*a*) A polished neolithic celt which, like nos. 1 and 3, was probably used as an amulet and treasured for the beauty of the stone, being of dark green epidote quartz ('Stone Objects', ch. 25, no. 2 = Pl. 140, *b*). (*b*) A saucer of grey schist finely turned on the lathe (*ibid.* no. 44). (*c*) A leaf-shaped lamp with three lug-ears of grey schist (*ibid.* no. 109 = Pl. 141, *bb*). (*d*) A sandstone mortar (*A.S.R.* (1929 30), p. 94, no. 151). (*e*) A flat rectangular hone (*ibid.* no. 152).

Precious metals, copper and bronze

Of the precious metals scarcely anything was found: nothing whatever of silver, and of gold only a few links of a reel-and-link pattern chain ('Gold Jewellery', ch. 30, no. 69 = Pl. 191, *j*), a gadrooned bead (*ibid.* no. 203), and a rosette of six petals (*ibid.* no. 178). Like the gold pieces nos. 46 and 144, these may possibly date from Parthian times, having been intentionally buried deep below the floors of the Parthian houses.

Among copper and bronze ornaments there was a child's bangle ('Copper and Bronze Objects', ch. 28, no. 17 = Pl. 171, *n*), a bronze pendant in the form of a miniature mirror (*ibid.* no. 27 = Pl. 172, *g*; Pl. 179, *e*), a hair-pin with Aphrodite head roughly fashioned (*ibid.* no. 227 = Pl. 173, *y*), and a brooch (?) in the form of a Bactrian camel with incuse depressions for enamel inlay (*ibid.* no. 427 = Pl. 185, *s*). Toilet and other articles of copper and bronze included: a bronze lamp with wire handle (*ibid.* no. 330); a cylindrical casket of copper with domical lid attached by chain (*ibid.* no. 252, *a*); an antimony-phial of hammered bronze (*ibid.* no. 243 = Pl. 182, *f*); a bronze bowl with incurved sides (*ibid.* no. 283 = Pl. 183, *h*); a copper key with three-pronged wards and ringed handle (*ibid.* no. 353 = Pl. 176, no. 353), two copper needles (*ibid.* nos. 371–2 = Pl. 173, *jj*, *kk*, and Pl. 184, *o*, 2), a copper clamp (Pl. 177, no. 380), a shield boss (Pl. 177, no. 388), and a small oval seal of copper engraved with a winged Pegasus prancing ('Seals', ch. 34, no. 16 = Pl. 208, no. 39). The bronze of which the bowl no. 283 is made contains 23·20 % of tin and 75·54 % of copper and is free from lead (cf. 'Tables of Analysis', p. 567, no. 15).

Iron

Of iron objects there were only four in this stratum, namely: an iron spoon with pear-shaped bowl ('Iron Objects', ch. 27, no. 22 = Pl. 162, *t*); a scale-pan (?) (*ibid.* no. 29 = Pl. 163, *c*);

a double-tanged arrow-head (*ibid.* no. 84 = Pl. 165, no. 84 and Pl. 206, no. 45) and a plummet (*ibid.* no. 211 = Pl. 170, *d*).

Bone and ivory

Bone and ivory were mainly used for small articles of the toilet which comprise: a bone hair-comb with curved top but undecorated ('Bone and Ivory Objects, ch. 32, no. 18 = Pl. 200, *g*), two ornamental hair-pins (*ibid.* nos. 27, 28 = Pl. 206, nos. 16, 20, and Pl. 199, no. 28), an ivory antimony rod with both ends clubbed (*ibid.* no. 37 = Pl. 206, no. 24), and a bone mirror-handle decorated with a female figure in relief (*ibid.* no. 43 = Pl. 203, *k*). Besides these, the finds included a stilus or modelling tool of bone (*ibid.* no. 81 = Pl. 200, *m*; Pl. 206, no. 38) and two specimens of ivory playing-dice (*ibid.* nos. 92, *a* and 93 = Pl. 200, *p*, *q*).

Shell and glass

Shell and glass were used in this, as in other periods, for beads and bangles. A bangle of shell, plain and ribbed at the sides, is figured in Pl. 201, no. 6 (= 'Shell Objects', no. 18). The fact that it has been repaired with copper rivets at the ends suggests that shell must have been of more than usual value at this time, and this is confirmed by the noticeable scarcity of articles made of this material except small beads. The glass bangles are usually of the plano-convex or twisted cable pattern, but the plano-convex pattern is sometimes varied by a midrib running down the outer side; they are fashioned chiefly out of pale and dark blue glass, but a few specimens of black glass have also been found. Opaque yellow glass, which is the favourite colour for beads, does not appear to have been used for bangles, though there is a fragment of a bangle of this glass (Sk. '19-913) which was found in the second stratum (first century A.D.). Coloured glass was also used for the bezels of finger-rings and, more rarely, for seals. A specimen from an oval bezel ('Beads', no. 2,765) bears the engraving of a bird, and a circular seal with two rings on its back shows a lion standing to left (cf. 'Seals', ch. 34, no. 31 and Pl. 207, no. 34). Both are of green glass and their workmanship is inferior. A fragment of a beautiful bowl of 'lace' glass (*vitro di trina*), which was found in the Early Śaka stratum ('Glass Objects', ch. 35, no. 6) seems likely to be a stray from the second stratum, as there is no other evidence that glass was imported from the Mediterranean coasts as early as the first century B.C.

Beads

Out of a total of over 5,500 beads found in Sirkap, nearly one-tenth came from the Early Śaka settlement. Considering the relatively small area excavated in this settlement, this represents a very high percentage and confirms the evidence from the Śaka stūpas at the Dharmarājikā that this class of ornament was much in vogue among the Śakas, principally, no doubt, because its manufacture required little technical skill and little artistic taste. The materials and shapes of the Śaka beads are mostly the same as those prevailing during the previous periods. Most favoured of the materials are glass and shell, of the former of which there are 255 examples, of the latter 224. Of the glass beads 182 are of opaque yellow, twenty-seven of blue, ten of green, two each of amber and pale blue, one of blotched and thirty-one of multicoloured or colourless glass. Next in popularity to glass and shell beads come those made of semi-precious stones, of which there are fifty-five specimens; then beads of faience, with seven specimens, and steatite and copper, with two each. Of the semi-precious stones twenty-one are carnelian,

ten agate, two chalcedony (of which one is a stratified eye-bead),[1] one onyx, seven malachite, three lapis-lazuli, two aquamarine, two jasper, two glazed quartz crystal, two plain crystal, and three garnet.

As to shapes, the two commonest are the disk, with 271 specimens, and the spherical, with forty-nine. Other less common shapes were the oblate (twenty-two), barrel (fourteen), cornerless cube and domical (twelve each), tabular and segmented (ten each), scaraboid (nine), cylinder (seven), angular and faceted (six), bicone (three), ovoid and flattened collar (two each). Besides these, the Śaka group from Sirkap includes a rectangular spacer of shell,[2] three lion beads,[3] and eight pendants, viz. three drop-shaped of shell, one vase-shaped of blue glass, one pear-shaped and gadrooned, also of blue glass, one club-shaped of malachite,[4] one comb-shaped, and one roughly in the form of a curved dagger.

When we come to describe the contents of the relic chambers of the small Buddhist stūpas at the Dharmarājikā, we shall find that they include a large number of beads which were enshrined in these stūpas during the Early Śaka period and which thus constitute a valuable supplement to the Śaka beads from Sirkap. Although the date when the Dharmarājikā beads were buried can be fixed within very narrow limits and a definite *terminus ad quem* established for them, it is necessary in their case to distinguish between those specimens which were manufactured in the Śaka period and those which had been preserved from an earlier (Maurya) period along with the bone or other relics with which they were enshrined. In the case of the Sirkap beads, it may safely be presumed that the majority of the beads were manufactured during the Śaka period, though there may be among them some strays from the later settlements, just as there are among the coins.

[1] Beck, *op. cit.* Pl. II, no. 44.
[2] *Ibid.* Pl. XII, no. 113.
[3] For one of these, made of chalcedony, cf. *ibid.* Pl. VII, no. 5.
[4] *Ibid.* Pl. VI, no. 13.

Chapter 5. SIRKAP *(continued)*

Remains of later Śakas and Parthians in strata III and II. Difficulty of discriminating between their minor antiquities

WE COME now to the remains of the later Śakas and Parthians comprised in the third and second strata of Sirkap, and in attempting to discriminate between the minor antiquities found in these two strata we must move with the greatest caution. Let me explain the difficulties. The original structures in both the third and the second strata were unquestionably erected by the Śakas, and the latter may be presumed to have been occupied for a short time by the Parthians after their conquest of the city. But not long after their arrival—probably about A.D. 20 or 30—there occurred a devastating earthquake which laid the city in ruins and caused widespread havoc throughout the countryside. Under the scare resulting from this catastrophe new methods of building were introduced. Up to this time, as I have already noticed (p. 63), the buildings of Taxila had ordinarily been built of rough or coursed rubble in mud with a facing of mud or lime plaster to hold the surface together, and one may reasonably presume, from what we know of Indian cities of that date,[1] that the houses ran normally into three or four stories, the upper ones of which would be largely of timber and rubble combined. Such structures were inherently very unsafe, and when the people of Taxila set about restoring their city after the earthquake, they naturally did all they could to render the new buildings more stable. The first step to this end was to replace the old rubble-in-mud masonry by a more massive kind of 'diaper', which was then in use on the farther side of the Indus and had been proved by experience to be more durable than rubble. The question may perhaps be asked why, with such an abundance of limestone on the spot, they did not adopt squared ashlar masonry, with which they were already quite familiar, in preference to diaper. The answer is that the local limestone was so hard and flint-like that it could only be chiselled and dressed with the greatest difficulty, and when, therefore, as occasionally happened, ashlar masonry was required for the facing of walls, etc., it was almost invariably made of the soft kañjūr stone which is also found in plenty throughout this part of the Panjāb but is unsuitable for enduring structures. In the new diaper masonry which now came into fashion in Taxila the heavy blocks of limestone were hammer-dressed to a flat surface on the outer face and underside only (and sometimes not even on the latter), and after they had been laid in their beds, the interstices between them were filled in with neat piles of small pieces of limestone or of kañjūr. In effect, the principle of construction in the new diaper was much the same as in the older coursed rubble, as illustrated, for example, in the temple at Jaṇḍiāl (Pl. 44, *c*), the main difference being that, in the diaper work, the larger blocks are very much heavier

New methods of building construction introduced after earthquake

Diaper in place of rubble masonry

[1] Compare, for example, the typical clichés of cities depicted on the Sāñchī gateways. Marshall and Foucher, *Monuments of Sāñchī*, Pls. 15, 23, 40, etc.

and more carefully bedded than in the coursed rubble, and that the interstitial stones are more neatly shaped and better fitted together. This new kind of masonry did not, of course, everywhere replace the old. Rubble masonry continued to be used occasionally down to medieval times, and was freely employed in the repair of buildings damaged in the earthquake, but the new diaper is to be seen in all the more important of the new buildings erected by the Parthians in Sirkap, and from the middle of the first century onwards became more and more common, and remained in vogue as the generally prevailing pattern of masonry until it was superseded by the semi-ashlar (pp. 260–1 *infra*).

Another novel method of wall construction

Another method of wall construction which is also found at Taxila from the first century A.D. onwards, and may or may not have resulted from the earthquake, consisted of building a low stone wall, either of rubble or diaper, about 3 ft. high, and completing the superstructure in mud interspersed with rough boulders, the mud in this case taking the place of the small stones which were used in coursed rubble and diaper work to fill the interstices between the boulders, and the boulders themselves being generally fewer in number, smaller and rougher than in either coursed rubble or diaper. We shall meet with particularly good examples of this kind of construction in some of the Buddhist monasteries (cf. Pls. 70, *d*, 100, *d* and pp. 316, 365–6).

Deeper foundations

The second step taken to safeguard the new buildings was to put in much deeper foundations. Formerly foundations had seldom been more than a foot or two in depth,[1] notwithstanding that the ground beneath them consisted of nothing but fallen and insecure debris. They were now frequently extended to 8 or 9 ft., and in the case of large structures such as the apsidal temple in Sirkap to as much as 18 or 20 ft.—that is, right down through the underlying debris of earlier cities to virgin soil.

Height of houses reduced, and lower stories converted into basements

The third step was to reduce the height of the ordinary houses to two stories, the lower one of which was in many cases buried in the ground to half its height and thus served as a basement or *tahkhāna*. Such *tahkhānas* are still common throughout the Middle East and by reason of their coolness are specially appreciated in the hot weather, but in Sirkap they seem to have been the outcome of the conditions prevailing after the earthquake, when the fallen houses were buried to a considerable depth in their own debris. Instead of clearing away this mass of debris and rebuilding the houses on the same level as before, the owners proceeded either to level up the debris and build a smaller house of two stories on the top of it or else —and this happened in the majority of cases—they cleared the debris from the interior of the ground-floor rooms only (and in some cases not from all of them), and then repaired the ruined walls, rebuilding them, seemingly up to the top of the second story only, which they roofed over. In this way they provided themselves with lower and smaller, but very much safer, houses, since the lower story, being half underground, would be virtually proof against earthquake shocks, and if the

[1] An exception was the great Ionic temple of Jaṇḍiāl, possibly the work of a Yavana architect, the foundations of which were some 8 ft. deep.

single story above was built, as it probably was, largely of wood, the danger would be reduced to a minimum. We shall return to the subject of this house architecture later; here for the moment we are concerned with the confusion which these unusual building operations following the earthquake produced on the stratification of the site. In the case of the fourth, fifth and sixth strata it is generally, though not always, possible to keep track of the disturbances in the ground caused by the sinking of specially deep foundations or of soak and refuse wells. But in the case of the later strata the disturbances were so many that little reliance can be put on stratification. A certain number of buried hoards can be dated within narrow limits by internal and external evidence, but apart from these it is rarely possible to affirm whether a particular object found (as the majority were found) lying alone in the debris dates from the late Śaka or Parthian period. For this reason I have been compelled to lump together most of the minor antiquities from the third and second strata, designating them as Śaka-Parthian or otherwise indicating their date within such limits as could be fixed. The terms 'Late Śaka' and 'Parthian' have only been used where there are specific reasons for inferring that the objects to which they relate date from before or after the Parthian conquest.

Resulting confusion in stratification of site

If the reader will turn to Pl. 10, he will find a plan of the excavated area in Sirkap showing this part of the city as it was in the first century A.D., when the Parthians had rebuilt it after the great earthquake. At that time the plan of the main and side-streets appears to have been much the same as it had been two centuries earlier, when they were first laid out by the Greeks on the Hellenistic chess-board pattern. Philostratus in his *Life of Apollonius* says of the city at this period that it was divided up irregularly into narrow streets, like Athens. His words are: φασὶ δ' ὡς ἀτάκτως τε καὶ 'Αττικῶς τοὺς στενωποὺς τέτμηται. This is clearly contrary to actual fact, as the streets are laid out with striking regularity, and it is obvious that Philostratus' information was at fault. The explanation, I think, may be that he got this particular piece of information from one or other of Alexander's historians, since what he says would be perfectly true of the city of Alexander's time on the Bhiṛ Mound, but not of the later cities in Sirkap. Many of Philostratus' statements are traceable to older sources than Damis, and this may well be one of them.

Lay-out of Śaka-Parthian city

But though the lay-out of the city had remained virtually the same since the days of the Bactrian Greeks, a noticeable change had occurred in the relative levels of the main and side-streets. Originally these had all been on approximately the same level, but as time went on and buildings fell to ruin and were replaced by new ones, there was a substantial rise in the ground-level caused by the accumulation of debris—a process which was very much hastened by the great earthquake. This rise was more rapid in the buildings and side streets than it was in the Main Street, which as far as practicable was kept free of debris, and so it came about that by the middle of the first century A.D. the side-streets rose at a sharp incline from the Main Street and that some of the buildings fronting on to the latter stood 4 or 5 ft above its level.

Rise in ground levels

Streets and blocks designated by numbers and letters

From the plan on Pl. 10 it will be seen that the side-streets cut the Main Street at right angles from east to west, and that starting from the North Gateway and proceeding southward they are numbered consecutively First Street, Second Street, Third Street, and so on up to Thirteenth Street. With two exceptions, the blocks of buildings between these side-streets are distinguished by capital letters starting with A at the north end of the city and ending with L at the southern end of the area excavated, and in order to distinguish the blocks on the east side of the Main Street from those on the west, the former are designated Block A, Block B, etc., and the latter Block A′, Block B′, Block C′, etc. Further, in cases where, as in Block A′, the blocks are subdivided by cross lanes or open spaces, the different buildings comprised in them are distinguished by the addition of a number to the capital letter. Thus Building A′ will be found next to the Main Street on its west side, Building 2A′ and 3A′ in the same Block but farther to the west. The two exceptions to the above nomenclature are the blocks immediately adjacent to the north wall, which are labelled nos. 1 and 1′, with the buildings 2′ and 3′ to the west of the latter.

General view of Śaka-Parthian city

At first sight, the plan of the structural remains excavated in the lower city of Sirkap may appear bewilderingly complex, but it will be very much simplified if we start by taking a general view of the buildings as they appeared in the first century A.D. and getting a proper understanding of their character. Let us imagine, therefore, that we have just entered the city by the North Gate and are looking down the long straight Main Street from the point whence the photo in Pl. 22, *a* was taken. The date is A.D. 40 or thereabouts, that is, about the time when Apollonius of Tyana is said to have visited Taxila, and when Gondophares, the Parthian, was ruling there. A decade has gone by since the great earthquake, and in the interval the city has been rebuilt, and its buildings are still looking new and more than usually spick and span. Most of them are plastered and whitewashed, but not a few are colour-washed, or partly colour-washed in yellows, blues, reds and greens, as buildings may still be seen in many a modern city of the Near and Middle East. Down either side of the Main Street runs a row of shops. They are small, single-story structures of one or two rooms, raised on a high plinth above the roadway and often with a shallow veranda or open platform in front. The rows of these shops are not continuous. At short intervals, their shadows are broken by streaks of sunlight from the narrow side-streets which cut from east to west in parallel lines across the city; and here and there, too, between the shops can be seen sacred temples and shrines overlooking the main thoroughfare; for the people of Taxila are a devout people, and the monuments of their faiths are as conspicuous a feature inside the city walls as they are in the country roundabout. One of these sacred memorials is on our immediate left. It is a stūpa of the Jains (?) standing in the middle of a spacious court between Second and Third Streets, but all we see of the stūpa is its dome and crowning spire of umbrellas rising above the surrounding wall. Then, a couple of blocks farther on, but not more than 80 yards away, is an imposing temple of the Buddhists—the biggest of its kind at Taxila—set well back

from the road in another great court; and in front of it the spires of two more stūpas, which stand in the same court to right and left of its entrance. Opposite to this temple at the corner of Block C′ is still another stūpa, while three others are visible rising above the shops farther up the street, two on the left in Blocks F and G and one on the right in Block E′, their graceful domes and spires making a pleasing contrast with the flat roofs around them. Beyond them, in the distance, the royal palace stands out, white and gleaming, against the rugged hills to the south.

At the back of the shops and shrines, and reached usually through entrances in the narrow side-streets, are the private dwelling-houses of the citizens. A few right under the city wall are poor, mean habitations, occupied probably by the soldiers who guarded the ramparts, but most of them are large houses belonging to the rich; for this is the fashionable quarter of the city. The royal palace itself is only 500 yards up the street and the people who live between it and the North Gate are of the governing classes, with attendants and slaves for whom accommodation is needed in their houses: people who can afford to wear costly jewellery on their persons and to use diverse articles of luxury imported from the western world. Their houses are flat-roofed and low, like bungalows; for since the great earthquake the old tall houses of Taxila have, for safety's sake, been cut down to two stories. They cover, however, a big area of ground—on an average, some 15,000 sq. ft.—and contain a score or more of rooms on each floor. When we enter them we shall find that the rooms are grouped, as is usual in the east, about several open courts from which they derive their light and air, but the courts are sometimes no bigger than the rooms themselves and sometimes they take the form of mere wells or of passages between the rooms. Windows are provided in the outer walls of rooms overlooking the streets, but they are no more than narrow slits like those in the outer walls of monasteries.

Higher up the Main Street, as one gets near to the royal palace, the houses are rather more carefully planned and furnished with larger courts. Some of these, one may suppose, served as public offices, and in the interests of administrative convenience they would naturally be located in the vicinity of the palace. The palace itself (Block K) is like a glorified private house—planned, that is, on the same lines but on a bigger scale, and with more spacious courts and rooms. Its walls, too, are more massive and higher in proportion to their massiveness, so that one can see the palace from any part of the city rising well above the surrounding roofs.

With this brief introduction to the Śaka-Parthian city, we may now proceed to examine the various blocks of buildings in greater detail, and for this purpose we shall start at the North Gateway and deal, from north to south, with the remains on the east side of the Main Street, and then return from south to north and deal with those down the west side.

Of the structural remains in Block 1 there is little to be recorded. Next to the North Gate was a house of moderate dimensions with a narrow lane at the back leading to the inclined ramp or steps by which access was gained to the ramparts. Block 1

Beyond this lane the remains comprise a number of small, poor-class dwellings built in haphazard fashion, and on their northern side abutting against the city wall. Whether First Street originally ran alongside the wall, as it did in the corresponding area on the west side of the Main Street, has not yet been determined. One naturally presumes that it did, and that it was only in after times that buildings were allowed to encroach up to the wall. The point, however, is one that can only be settled by further digging. In this block, as well as in the corresponding Block 1′ to the west of the Main Street and in Block D′, there were some fragmentary patches of an irregular and loose type of rubble masonry belonging to the top (first) stratum. This type of masonry is demonstrably later than the diaper masonry described above and is probably to be referred to early Kushān times, although it might be later still. The other structures in this block are built of the usual rubble masonry in vogue in the later Śaka period.

Among the miscellaneous objects found in Block 1 were the following:

Terra-cottas. Ch. 24, no. 7 (ex-voto plaque with standing female figure); no. 42 (statuette of squatting *kumbhāṇḍa*).

Iron. Ch. 27, no. 45 (bell); no. 62 (dagger); no. 78 (arrow-head).

Bone and Ivory. Ch. 32, no. 19 (decorated comb); no. 56 (mirror handle).

Finger-rings. Ch. 31, no 11 (of solid gold with double-headed scorpion-like creature supporting either side of bezel); no. 36 (of silver-bronze set with glass-paste gem).

Seals. Ch. 34, no. 25 (square copper seal with *nandipada* device and Kharoshṭhī legend = *Arajhaṁdasa*).

Block A. Stūpa-court

The succeeding block of buildings to the south (Block A) is screened on the side of the Main Street by a large stūpa-court which stretched across the whole width of the block between Second and Third Streets. Excluding the apsidal temple in Block D, this court is the largest of its kind in the lower city of Sirkap. From north to south it measures approximately 110 ft. and from east to west between 95 and 98 ft. Apart from its spaciousness, this court also differs from others of its kind in Sirkap in having a number of small living-chambers around its four sides. Some of these chambers appear to be of later date than others. The masonry in both cases is rubble, but whereas in the earlier walls limestone is generally used for the larger boulders as well as for the smaller stones which fill the interstices between them, in the later walls kañjūr and limestone are used indiscriminately. In the front of the court overlooking the Main Street are the remains of a solid plinth which extended across the whole frontage, like the plinth in front of the apsidal temple a little higher up the street; but in this case there is no trace of steps or of an entrance from the Main Street such as we find at the apsidal temple and at the stūpas in Blocks C′, E′, F and G. We may infer, therefore, that the entrance to this stūpa-court was from Second Street, towards which, as we shall see, the stūpa itself faces. In the case of the apsidal temple the plinth or terrace served at once as a retaining wall to support the raised court in which the temple stands, and also to carry the two flights of steps leading up to the courtyard. In other cases (e.g. Blocks F, P, etc.), where there was a row of shops fronting on to the Main Street,

a raised plinth carrying a veranda, such as one commonly sees in India to-day, would be a useful and natural adjunct. But the stūpa-court in Block A was not raised, as the apsidal temple was, on a terrace, and there were no shops requiring an elevated plinth in front of them. In this case, therefore, some other explanation must be looked for, and this explanation may, I think, be found in the danger to which the front of this building was exposed from the flood-water pouring down the Main Street during the rainy seasons. As already explained, the volume of water rushing down towards the North Gate, and emptying itself through the culvert, must at times have been very great, and the front of this building would be particularly endangered, since it stood at the point where the incline was steepest and where there was a bend in the Main Street towards the North Gate, both of which factors would tend to increase the force of the water's impact. This, I think, also explains why the side wall of the building up Third Street was also strengthened for a distance of over 40 ft., i.e. up to a point where the rapid rise in the level of the street itself made further strengthening unnecessary.

The largest of the stūpas in this court (Pl. 23, *a*, *b*, *c*), which stood in its centre, had a base measurement of 32 ft. 9 in. square. Its appearance was similar to that of a number of other contemporary stūpas, e.g. of the two stūpas in Blocks F and G, of stūpa A at Jaṇḍiāl and of stūpas R4 and D3 at the Dharmarājikā. The core of the structure is of rubble and the facing, as usual, of kañjūr stone overspread with coarse stucco, and finished with lime-wash, coat upon coat of which, added in the course of years, was found adhering to parts of the structure. Round the base ran a torus and scotia moulding surmounted by a series of pilasters, seven on each side, above which were a frieze and dentil cornice similar to the corresponding members in the stūpa of Block F. The frieze and the cornice are now no longer *in situ*, but a multitude of carved blocks belonging to them were found amid the fallen debris. Round the upper edge of the plinth ran a balustrade of the orthodox pattern, 3 ft. 8 in. in height, including a somewhat deep coping and base moulding. A small but complete section of this balustrade, measuring 4 ft. 2 in. in length and comprising three uprights, was lying on the south side of the structure and proved of special interest in demonstrating how this kind of balustrade was constructed (Pl. 23, *c*). Evidently it was first pieced together in stone, each of the members (pillars, cross-bars, coping, etc.) being cut independently, as if they were intended for an open railing, but with this difference—that the backs of the pillars and the coping were not dressed or decorated, and a thick layer of lime plaster was afterwards applied over the whole back of the balustrade, while the front was also finished off more carefully with the same plaster.

Of the superstructure of this stūpa nothing was left but some of the kañjūr blocks of the drum and three umbrellas of the same material, the largest one of which has a diameter of 3 ft. 3 in. The chamber containing the relics was in the centre of the plinth about 3 ft. 9 in. below its upper surface. It was 7·25 in. square by 1 ft. 7 in. deep and constructed of blocks of kañjūr with a heavy piece of limestone to cover it. The latter had been moved from its original position and was

found lying at the side of the chamber, which had already been rifled of most of its contents. The only articles that I found inside were the following: a relic bone; three small pearls; two shell beads; one cylindrical gold bead; eight small pieces of gold; one coin of Apollodotus II ('Apollo and tripod' type); three coins of Azes II ('Mounted king and Zeus Nikephoros'); five fragments of a crystal casket measuring, when intact, about 10·5 in. in diameter by 2·19 in. high. The fragments of the crystal casket (Pl. 36, *a*) are very finely cut and polished, and of a quality which suggests Maurya workmanship. From the size of the fragments it is clear that the casket when intact would have been too large to go inside the relic chamber, and it must be inferred, therefore, that it was enshrined there in its present broken condition. The probability is that the relics deposited here, including the coin of Apollodotus II, were taken from some older monument and that, the crystal casket in which they had reposed having been broken, the fragments of it were scrupulously preserved. That contact with the relics would invest such fragments with a special sanctity is clear from the story of the Brāhman Drona, who at the division of the relics of the Buddha received as his share the casket in which the Mallas had placed them, and it is proved also by the discovery of similar fragments in stūpas at Sāñchī, Sārnāth and elsewhere.

The coins of Azes II confirm the date of this stūpa, which would in any case be determined by its style and other circumstances as falling in the later Śaka period, i.e. about the beginning of the Christian era.

Of subsidiary stūpas in the court there were three, viz. one in fairly good preservation on the south side of the main stūpa (Pl. 23, *b*), and two of smaller dimensions and in a more ruinous condition near its north-west corner. All three are built of rubble masonry faced with plaster, and the largest of the three, which was standing to a height of 3 ft. 7 in., is adorned with the usual base moulding surmounted by three Corinthian pilasters on each side. Each of the pilasters is relieved by a depression in its face with a 'bead-and-reel' moulding fashioned in stucco. In the small, as in the large, stūpas, blocks of kañjūr stone are let into the rubble walls for the mouldings, pilasters, etc., which are blocked out of the soft stone and finished off with plaster.

Minor antiquities from stūpa-court in Block A

Among other objects found in this court may be mentioned the following:

1. Three small votive stūpas of kañjūr, of a height varying from 1 ft. to 1 ft. 6 in. (Pls. 23, *b* and 26, *c*). The form of these votive stūpas suggests a date considerably later than the first century A.D.; but there are not sufficient data available to affirm this with confidence. The kañjūr stone was finished off with plaster.

2. Four bowl-shaped bells of copper from 4 to 7 in. in diameter, furnished with ring handles at the top and iron tongues inside, suspended from rings of the same metal ('Copper and Bronze Objects', ch. 28, no. 350, *b* and Pl. 176, no. 350). Such bells have been found in many Buddhist monuments and were, no doubt, used in connexion with the ceremonial observances, as they still are.

3. A goldsmith's mould of terra-cotta, 2·5 in. long (cf. *A.S.R.* (1915–16), Pl. IX, 14).

4. Flesh-rubber of terra-cotta 3·5 × 3·25 × 1·25 in. with incised linear and other patterns on all sides (*A.S.R. ibid.* p. 15 and Pl. VIII, *d*; cf. also 'Pottery', ch. 23, nos. 166–9).

5. Two ritual tanks of terra-cotta described in detail in chapter 24 (nos. 158, 159 and Pl. 136, *w*, *x*). The tanks are square, with a small shrine on one side and steps descending into the tank, and by the side of the steps a primitive idol of a goddess. On the corners of the tanks are lamps; and on three sides, between the lamps, is perched a bird. Inside the tank on the floor are eels, water snakes and other aquatic creatures, as well as a small protuberance near the foot of the steps on which, in one of the tanks, a bird is perched.

6. Saucer of phyllite 3 in. in diameter. Cf. 'Stone Objects', ch. 25, Class VIII, nos. 42–7 and *A.S.R. ibid.* p. 15, no. 6.

7. A bell-shaped flask of earthenware and a square tablet stamp of the same material ('Pottery', ch. 23, nos. 24, 256).

The purpose of the ritual tanks is discussed in chapter 24, pp. 462–8. Several more tanks of the same kind were discovered alongside a small stūpa in the palace precincts (pp. 173–4) and others in both the Bhir Mound and Sirkap, but none have been met with on any site such as the Dharmarājikā, Jauliāñ, Mohṛā Morādu, etc., which are known definitely to be Buddhist. For this reason and because there was no trace of any images, such as were found in the neighbouring apsidal temple (D), I inclined to the belief that these stūpas in Block A were probably Jaina rather than Buddhist. We know from many passages in literature that Taxila was an important centre of Jainism, with numerous monuments of that faith in and around the city, and it can hardly be doubted that some, at any rate, of the stūpas unearthed in Sirkap and the neighbourhood belonged to the Jains, though which particular ones is necessarily conjectural, since no inscriptions or anything else of a definitely Jain character have been found in any of them.

At the back of the stūpa-court described above a dividing wall runs in a straight line across Block A from Second to Third Street. Beyond this wall is a house (2 A) of considerable dimensions, which appears to extend eastward as far as the excavations have gone, that is, to a depth of nearly 200 ft., its superficial area, so far as it has been cleared, being about 22,000 sq. ft. The house comprises seven rectangles, for the most part clearly defined, with a small open court and several rooms in each rectangle. Little, however, of the superstructure has survived and, though several of the interior doorways can still be traced, one is left to speculate as to how the courts and rooms communicated with one another and with the two side-streets which bound the house on the north and south. The best-preserved part of the house is at the eastern end, which appears to have been partly rebuilt after the earthquake. In particular we may notice a small, regularly aligned structure in the rectangle near the south-east corner (squares 24–26·45′–48′). Placed against the south wall of the court, it measures less than 30 ft. wide and 35 ft. long, but it is a complete bijou dwelling in itself, with six small rooms encompassing an equally small court in the centre, and is thus, as it were, a house within a house (Pl. 22, *b*, foreground). Such bijou structures are found in several of the houses of this period. There is another, for instance, in the next block (B) on the south and a still better example in Block F. They date from the rebuilding period after the earthquake, and being of such small dimensions with an open court around them, were doubtless regarded as extra safe and reserved for the special use of the owner, or, House 2 A

if one may hazard a guess in the case of this particularly small structure, for his favourite wife.

Outside the eastern wall of the court which contains this little house (in squares 26·43′ 44′) were found the remains of a circular soak-well, consisting of a series of earthenware rings set one above another as illustrated in Pl. 6, *b*. Such soak-wells occur frequently on the Bhir Mound, but only very rarely in Sirkap, and not at all on any of the later sites. Another feature of interest in the same part of the house is the square plinth of a small stūpa which came to light in squares 20–21·42′ (Pl. 23, *d*). The plinth, which is rather over 5 ft. square, is composed of limestone rubble in mud, finished with a coating of plaster. The chamber in which it stands is little more than 10 ft. square and more suited, therefore, for a memorial stūpa, such as we shall meet with in some of the later monasteries, than for a cult one; but there can be little question, I think, that this was a small private stūpa chapel set up in the women's quarters and intended for their use. There is another small stūpa of the same kind in the royal palace also connected with the women's quarters (p. 173).

Minor antiquities from House 2 A

From a room in the north-east corner of the bijou structure described above came the fine copper jug of Hellenistic pattern, with dolphin handle and domical lid, illustrated in Pl. 183, *f* ('Copper and Bronze Objects', ch. 28, no. 265). Two other jugs of the same pattern and belonging to this period were also found in Sirkap, one a few yards away in Block B, the other in Block E (*ibid.* nos. 264, 263).

Other small antiquities found in the buildings to the east of the stūpa-court were:

Stone Objects. Ch. 25, no. 74 (toilet-tray with rider on hippocamp); no. 136 (crystal and copper amulet).

Copper and Bronze Objects. Ch. 28, no. 2 (copper bangle); no. 31 (bronze buckle); no. 250, *b* (stopper of antimony-phial); no. 252, *b* (copper casket adorned with human masks in swags); no. 265 (jug with lid and handle of Hellenistic pattern); no. 293 (saucer); no. 309 (spoon); no. 354 (key); no. 361 (spatula with *nandipada* handle); nos. 378, 379 (ornamental hinges).

Bone and Ivory. Ch. 32, no. 30 (ornamental hair-pin); no. 103 (toy table?).

Glass. Ch. 35, no. 7 (fragment of lace-glass bowl).

Finger-rings. Ch. 31, no. 31 (copper ring with flat bezel).

To the above we must also add: a diamond-shaped box-setting of gold, length 0·43 in., with beaded rim (Sk. '29–2,100; sq. 20·44′), similar to one found in a hoard of jewellery in Block E ('Jewellery', ch. 30, no. 212)[1] and a rectangular piece of claystone with a Kharoshṭhī inscription of four letters, *migalasa* (*A.S.R.* (1929–30), p. 69, no. 91).

Block B

Block B contains the remains of two houses and part of a third, divided from one another by party walls running across the block in a straight line from Third to Fourth Streets. The house on the west (1 B), overlooking the Main Street, has a frontage of 112 ft. and a depth, including six shops which partly mask the front, of 160 ft. It dates from the late Śaka period and its planning, as so often in these Śaka houses, is very irregular. It appears, however, to have possessed six open

[1] Cf. *A.S.R.* (1929–30), p. 68, no. 89.

courts and more than two dozen chambers, most of them of very small dimensions, on the ground-floor, with two entrances from Third Street and perhaps another from the Main Street in between the shops. The second house (2B) is of the same width, but only about half the depth, its superficial area being about 7,700 sq. ft., with two open courtyards. Its lay-out is noticeably more regular than that of the preceding one. The third house (3B) has only been partially excavated and its complete plan, therefore, is not yet determined. Nevertheless, what there is of it is instructive because it was largely rebuilt after the earthquake, and we get here another interesting example of the bijou house within a house which came into fashion at that time. Under the floor of this house I found a small earthenware pot containing a small but valuable hoard of gold and silver jewellery, which had been buried close up against the foundation wall on the east side of the small chamber in square 31·47′. The jewellery comprised the following pieces:

Find of jewellery in House 3B

1. Pair of gold ear-pendants of the 'leech-and-pendant' type, consisting of a plain leech crescent with clasp and a 'bud' pendant suspended from it by a movable ring. The leech is of thin plate-gold shaped on a core of lac or pitch ('Jewellery', ch. 30, nos. 13, 14). These ear-pendants, which are illustrated in *A.S.R.* (1924–5), Pl. XI, figs. 9, 10, are similar to those figured *infra*, Pl. 190, *g*, *h*, *i* and described in the chapter on 'Jewellery', nos. 9–12, 15–24.

2. A handsome gold necklace of twenty-seven pendants including two terminals (*ibid.* no. 58 and Pl. 193, no. 58; *A.S.R.* (1924–5), Pl. XI, 2). The alternate pendants are inlaid with rock crystal *en cabochon*; the others with blue turquoise paste in the centre and top cloisons, and white orthoclase felspar in the four leaves.

3. Pair of hollow barrel-shaped ornaments of gold cloisonné-work inset with turquoise ('Jewellery', ch. 30, nos. 167–8 and Pl. 191, *x*, *y*).

4. Three hollow bangles of gold with expanded trumpet-shaped ends; one of the bangles is provided with a tenon and socket hinge in the middle of the back (*ibid.* nos. 122–4; for similar bangles, cf. nos. 116–21, 125–32 and Pl. 195, *c*, *d*, *f*, *g*).

5. An oval seal of carnelian set in a heavy gold frame with four rings at back. Engraved on the carnelian are intaglio figures of Eros and Psyche, with a diminutive Eros behind Psyche ('Seals and Sealings', ch. 34, no. 30 and Pl. 207, nos. 11, 11 *a*; cf. *A.S.R.* (1924–5), Pl. XI, 1). The same motif occurs in a brooch of gold repoussé work found in Block D′ (sq. 62·113′). See 'Jewellery', ch. 30, no. 98, and the references there given to similar figures of Eros and Psyche.

6. A gold necklace of eighty-three plain tubular beads (*ibid.* no. 66 and Pl. 192, *f*).

7. Two solid bangles of heavy silver wire with cubical knobbed ends (*ibid.* nos. 102–3 and Pl. 195, *a*).

The earthenware pot containing this jewellery was probably buried at the same time as a number of other small hoards found under the floors of contemporary houses, i.e. on the occasion of the Kushān attack on Taxila about A.D. 60. The jewellery itself may thus be assigned to the middle or first half of the first century A.D.

Other objects found in the same house (3B) were:

Other small objects from Houses 3B, 2B and 1B

1. A headless male statuette of chloritised micaceous schist holding a bird on his left hand. From square 37·44′ ('Sculptures', ch. 36, no. 10 and Pl. 213, no. 10). Though mutilated, it is valuable as one of the few examples known to us of the early Gandhāra School.

2. A circular stamp of terra-cotta showing a floral pattern incised, from square 30·44′ ('Pottery', ch. 23, no. 257 and Pl. 204, *e*).

3. A votive plaque with male and female figures standing side by side ('Terra-cottas', ch. 24, no. 36).

4. Copper bangle, casket, and lion-handle of incense burner ('Copper and Bronze Objects', ch. 28, nos. 3, 254, 322).

5. Corner-piece of copper with winged Eros (*ibid.* no. 398).

6. Part of ivory toy table ('Bone and Ivory', ch. 32, no. 100).

7. Piece of Graeco-Roman glass bowl ('Glass', ch. 35, no. 14).

8. Group of six coins of Kadphises I, of the 'Hermaeus bust and Heracles' type (Sk. '15–938; sq. 38·43′; stratum II).

From the house in the middle (2 B) came the earthenware vessels described under 'Pottery', ch. 23, nos. 13, 42; two saddle querns and a *konora* of stone ('Stone Objects', ch. 25, nos. 11, 12, 126); an incense-burner and plummet of iron ('Iron Objects', ch. 27, nos. 36, 213); a mixing-pan and ladle of copper ('Copper and Bronze', ch. 28, nos. 301, 305); a bronze key (*ibid.* no. 355); and a roughly fashioned humped bull of copper (*ibid.* no. 429). Also a tortoise-shaped amulet of green faience (Beck, *op. cit.* Pl. VII, 23).

Among the minor objects from the third house (1 B) immediately behind the shops overlooking the Main Street, were two handled jugs and an inkpot of earthenware ('Pottery', ch. 23, nos. 77, 80, 146); a limestone crushing-mill ('Stone Objects', ch. 25, no. 30); a cooking-pot, covered ewer of Hellenistic pattern, and inkpot of copper ('Copper and Bronze', ch. 28, nos. 255, 264, 334).

Block C

In the next block to the south (Block C) the limits of the several houses are defined for the most part by cross lanes as well as by the side-streets, and in the case of two of them at any rate (1 C and 3 C) there can be no doubt about their boundaries, the area of the former being about 13,000 ft., including the row of shops overlooking the Main Street, and the area of the latter about 2,600 ft. The plans in this block, it will be observed, are noticeably more irregular than in the two preceding ones, partly, I surmise, because they were not realigned and straightened out during the reconstructions after the earthquake, as many of the other houses appear to have been; partly because the great apsidal temple in the neighbouring block to the south encroached to some extent on this area, though this encroachment, which had the effect of pushing Fifth Street some 30 ft. farther north than it had originally been, seems to have taken place before the existing temple was built. This at least was the inference I drew from excavations made under the present courtyard of the temple.

Few minor finds in House 1 C

The ruins of House 1 C were curiously devoid of minor finds, the only ones of note being a bracket figure of chloritised schist belonging to the early Gandhāra School ('Stone Sculptures', ch. 36, no. 12), a silver seal with an engraving of a Brahmani duck and the name of the owner, Dharmarakshitā, in Kharoshṭhī ('Seals', ch. 34, no. 15), and another seal of white glass with a winged centaur running to right (*ibid.* no. 33).

Minor finds in House 2 C

From 2 C came several small articles of interest, namely:

1. A relic casket of grey schist (height 5·87 in.) in the form of a stūpa with four umbrellas on a detachable shaft (Sk. '24–1,285; sq. 51·43′ = Pl. 36, *c*), and the bottom of a cylindrical casket of the same material decorated with cordon mouldings, height 1·38 in. (Sk. '24–738; sq. 46·44′ = Pl. 36, *b*).

2. A copper ladle with vertical goose-head handle of Graeco-Roman pattern and a bronze inkpot with serpentine handle ('Copper and Bronze', ch. 28, nos. 306, 338).

3. A shapely bronze jug of Hellenistic pattern with handle adorned with scroll devices (*ibid.* no. 261 = Pl. 174, no. 261 and Pl. 183, *c*).

4. A goldsmith's blow-pipe of copper (*ibid.* no. 376).

5. Two ivory hair-pins with ornamental heads ('Bone and Ivory', ch. 32, nos. 31, 32 = Pl. 206, nos. 13, 17).

6. Three bronze or copper finger-rings, two with oval and one with round bezel. One of the former ('Finger-rings', ch. 31, no. 55) is engraved with a standing figure of Poseidon (?) with the legend *Mahajhaṇa putrasa. . .jhaṇasa.* 'Of. . .dhyana, son of Mahadhyana'.[1] The second bears the effigy of the winged horse Pegasus (*ibid.* no. 43 and *A.S.R.* (1924–5), Pl. XI, 6). The third (*ibid.* no. 48) is engraved with a female figure in flowing draperies.

7. Circular seal of green glass with engraving of a lion to left and two rings on back ('Seals', ch. 34, no. 31 = Pl. 207, no. 34).

8. Head of chloritised schist belonging to the early Gandhāra School ('Stone Sculptures', ch. 36, no. 13).

From House 2C also came two small groups of coins, viz.: (*a*) In terra-cotta vase (sq. 45·44'; 4 ft. below surface) eighteen coins of Kadphises I ('Bust of Hermaeus and Heracles') and two of Azes II ('Mounted king and standing Zeus'); (*b*) (sq. 43·54') one Local Taxilan (*chaitya* and symbol = *I.M.C.* p. 159, no. 42), two of Kanishka ('King at altar and Śiva'; 'King at altar and Sun-god'), and two of Vāsudeva ('King at altar and Śiva with bull').

Minor finds from House 3C

From the House 3C, which abuts on the temple wall, came a toilet-tray of phyllitic slate divided into four compartments by a bold swastika in the centre ('Stone Objects', ch. 25, no. 92 = Pl. 146, no. 92), and a fine specimen of a bronze frying-pan (Gr. τήγανον) with a ram's head handle ('Copper and Bronze', ch. 28, no. 299). In the lane on the north side of this house was found a standard incense-burner of pierced copper work (*ibid.* no. 327 = Pl. 176, no. 327).[2]

Abundance of coins of Kujūla Kadphises explained

Most of the above objects and others described in the following pages were probably buried in the ruins of these Śaka-Parthian houses when Taxila was sacked by the Kushāns about the year A.D. 60, but some of them are evidently later, the city having doubtless continued in partial occupation after the government had been transferred to the new city of Sirsukh. As to the pot of twenty coins from House 2C, it is to be noted that eighteen out of the twenty coins found in it are of Kujūla Kadphises, the other two being of Azes II. Coins of Kujūla Kadphises have been found in great profusion among these ruins in Sirkap, their total number being over 2,500, including 412 of Kadaphes, as compared with thirteen only of V'ima Kadphises. It would be natural, therefore, to infer that it was Kujūla Kadphises who first conquered Taxila, and that these coins are referable to the years when he was ruling there. Rapson, however, may be right in explaining their presence on the assumption that they represented the ordinary currency of the Kushāns at the time when the invasion of India took place[3]—a currency which must already have had a wide circulation in the Kābul valley and adjacent tracts, and was probably well known, even before the Kushān invasion, at Taxila itself,

[1] Pl. 198, no. 55 and Pl. 208, no. 46; *A.S.R.* (1924–5), Pl. XI, no. 3; *C.I.I.* vol. II, pt. 1, p. 101, 6.

[2] For other objects from Block C, see 'Pottery', ch. 23, nos. 15, 37, 39, 47, 129, 153, 156, 164, 262; 'Stone', ch. 25, nos. 55, 127; 'Iron', ch. 27, nos. 121, *b*, 190, 193, 197, 219; 'Bone and Ivory', ch. 32, nos. 34, 48, 61, 73, 76; 'Shell', ch. 33, nos. 5, *c*, 12.

[3] Cf. Rapson in *C.H.I.* I, p. 584.

to which it would have found its way in the course of ordinary trade between the two countries. Nothing is more likely than that V'ima Kadphises would go on employing this familiar currency for some time after his conquest of Taxila. But there is also another possibility which should not be overlooked. Kujūla Kadphises had a long life (he was over eighty when he died) and the Kābul valley and Gandhāra, which owing to its great mineral and other wealth was a constant bone of contention between the neighbouring great powers, may have been first conquered by Kujūla Kadphises, then wrested from the Kushāns by the Parthians and retaken by V'ima Kadphises. This would explain the meaning of the *Hou Han-shu*, where it is stated that V'ima Kadphises (Yen-kao-chen) reconquered India (Tien-chu or Shen-tu), implying that it had previously been conquered by the Kushāns.[1] Even if Gondophares took only the Paropamisadae from the Kushāns, he might have continued to use the copper coinage established there by the latter and brought it into currency at Taxila. But I mention this merely as a possible, not by any means as a convincing, explanation to account for the abundance of these coins at Taxila.

Block D: Buddhist apsidal temple

To return, however, to the structural remains in Sirkap. The next block (D) on the south is taken up almost entirely by an unusually imposing apsidal temple of the Buddhists or, as they themselves called it, a 'stūpa-chapel' (*griha-stūpa*). The temple stands in a spacious rectangular court measuring about 228 ft. from east to west by 135 ft. from north to south and raised about 4 ft. 6 in. above the level of the street (Pls. 24, 25 and 26, *a*, *b*). The platform which supports this court is composed of the ruins of late Śaka buildings, destroyed presumably by the earthquake and levelled up in their own debris. The earthquake, no doubt, afforded a golden opportunity, in this and other cases, of improving on existing buildings and adding to the amenities of the city. The outer wall which surrounds the temple platform is built of diaper masonry of medium-sized boulders and is of somewhat irregular construction. Its average thickness is about 5 ft. 9 in. Above the level of the courtyard it is now standing in places to a height of 2 or 3 ft., but its foundations descend to a depth of some 8 ft., with three footings on the inner and outer sides for distributing the weight. Access to the platform from the Main Street was provided by two flights of steps laid parallel with its western wall and recessed back into its face (Pl. 25, *a*). In each flight are five steps composed of large limestone blocks measuring 5 ft. 6 in. in width, with 8 in. risers. Flanking these steps, to right and left, were two double rows of chambers, eight in each row, i.e. four larger ones on the east and four smaller ones corresponding to them on the west. Presumably these were occupied by the monks in attendance on the chapel, each of whom would thus have two cells, viz. a living-cell in front and a sleeping-cell behind; but it is also possible that these chambers were leased by the temple authorities as shops, in which case they would have been entered from the west, not from the east, and some steps (which have now disappeared) must have been provided in front of their entrance on the street side. Shops in identically the same position may still be seen at many Indian temples and mosques.

Temple court

[1] Cf. Konow in *C.I.I.* II, lxvii and n. 3.

In the plan (Pl. 24) the outlines of some other structures appear immediately to the east of the chambers described above. These, however, have nothing to do with the temple. They were exposed at a lower depth and belong to the stratum of late Śaka remains, which were levelled up at the time the temple was erected. Below these, again, were other walls of the early Śaka and Greek periods (Pl. 26, *b*). The digging here was carried down to a depth of about 18 ft., and yielded, among other things, an ivory handle (?) adorned on either side with a bearded Greek head of the philosopher type, possibly Socrates ('Bone and Ivory Objects', ch. 32, no. 120 = Pl. 203, *p*; cf. *A.S.R.* (1912–13), Pl. XX, *d*).

Besides the chambers on the west side of the temple court, there were also the remains of a small apartment abutting on to the south wall of the court in a line with the entrance of the temple, and of another in its north-east corner, as shown in the plan. The temple itself (*griha-stūpa*), which stands on a raised plinth near the middle of this court facing the west, consists of a rectangular nave with a porch in front and a circular apse behind, the whole surrounded by an ambulatory passage (*pradakshiṇā*) entered on both sides from the front porch. The plan is thus similar to that of the Sudāma cave in the Barābar hills, except that in the latter the screen between the nave and apse is curved on both sides, and that there is no ambulatory passage around. Including the approach steps, the chapel measures 129 ft. east to west by 51 ft. north to south, the nave being 41 ft. long internally by 28 ft. 9 in. wide, and the apse having a diameter equal to the width of the nave.

The *griha-stūpa*: its plan and construction

From the ground-level upwards the walls were of the early diaper masonry introduced by the Parthians after the great earthquake, the base mouldings being of kañjūr, and the whole originally faced with lime plaster. The base mouldings, which are of the ordinary torus and scotia pattern, were originally returned along both sides of the entrance steps, but there now remain only two blocks on the northern side of the latter. Inside the apse, at a height of about 1 ft. 6 in. above floor-level, was a horizontal course of timber to which dado panelling could be affixed, as in the royal palace described below. Needless to say, the timber had long since perished, but its place was taken by a deposit of mud some 6 in. deep, which clearly indicated its position. In order to prevent the diaper walling above from collapsing, the mud has now been replaced by a line of ashlar masonry, just visible in Pl. 26, *a*.

In the middle of the circular apse there must once have stood a stūpa, but this appears to have been destroyed, doubtless by treasure-seekers, even before Cunningham examined the building in 1863. In his Report for that year[1] Cunningham speaks of the nave having been excavated a little previously by Major Cracroft, Deputy Commissioner of Rāwalpindi, and still earlier by Major (afterwards General) Pearse. He himself completed its clearance and found numerous pieces of colossal figures of burnt clay, including three heads with the eyes wide open and two right hands, one empty and the other holding drapery. Two other heads of a similar type, he notes, had been recovered by Major Cracroft from the same spot. As one of the heads unearthed had a face 10·5 in. long and one of the hands was

Previous excavations

[1] *C.S.R.* II (1862–5), pp. 126–8.

6·5 in. broad across the four fingers, he estimated that some of the figures must have been 9 or 10 ft. in height. Along with these fragments of figures Cunningham found the lid of a steatite casket, a bar of lead 13·5 in. long, iron hinges, an iron clamp, charcoal and lime. It is a great pity that Cunningham failed to publish or preserve any photographs of the figural pieces. He says that they were made of burnt clay, and we may surmise that the clay had been accidentally converted into terra-cotta when the chapel was burnt out,[1] as it was also in the case of the later terra-cotta figures at Jauliāñ ('Terra-cottas', ch. 24, no. 181 = Pl. 139). Statues intended to be housed inside a building, where they would be protected from the elements, were ordinarily fashioned out of clay; while those in exposed positions were made of lime stucco or in a few cases of terra-cotta. Cunningham, of course, knew nothing of the date or exceptional value of these images; had he done so, he would doubtless have given us a better record of them. As it is, one can only assume that they were generally similar to the contemporary stucco figures described below, which were found in the courtyard of this temple. There is one point, however, on which one would particularly have appreciated some further information. Cunningham came to the conclusion that the images were seated and 'similar to those that are seen all over Barma', and he says nothing of their wearing turbans or jewels. This seems to imply that the Buddha type, as distinguished from the Bodhisattva type, had already been evolved by the middle of the first century A.D., and this may actually have been the case; but it is quite likely that Cunningham, who had little knowledge of the history of Indian sculpture, jumped hastily to a conclusion which more careful consideration of his material would have upset.

Circular apse and its foundations

The circular apse of this temple was taken by Cunningham[2] to be one of the underground apartments at Taxila alluded to by Philostratus. Cunningham describes it as being 18 ft. deep (presumably below ground-level) with a solid pavement of rough stones at the bottom, and he says that under Major Cracroft's orders it had been cleared of the rubbish with which it was filled. This is certainly incorrect. What Cunningham took to be a circular underground room was nothing more than the foundations of the apse, which, owing partly to the excessive weight of the superstructure, partly to the unstable character of the ground, and partly to fears engendered by the havoc of the then recent earthquake, were carried right down through the debris of earlier structures until virgin soil was reached at a depth of 22 ft. below the floor-level. After laying these foundations the builders filled up the interior with stone rubble. Most of this rubble I found still intact when I excavated the interior, and removed only a part of it, in order to get to the bottom of the foundation walls. The 'solid pavement' described by Cunningham was nothing more than this rubble filling, a small portion of which Major Cracroft had evidently cleared on the north side of the apse down to a depth of only 18 ft. before he abandoned the work; with the result that the unexcavated rubble had the

[1] I do not attach any weight to Cunningham's argument that the lead bar which he found would have been melted if the building had been burnt out. It may well have been a stray of later date.

[2] *C.S.R.* II (1862–5), p. 128.

appearance of a rough floor. Here, unquestionably, Cunningham's account is based on the most superficial observation and warns us, as does his very erroneous plan of the building,[1] against placing over much reliance on his statements.

As to the elevation of this apsidal temple, it is probably safe to assume that it conformed as nearly as possible with the design of the apsidal stūpa-chapels—commonly known as '*chaitya*-halls'—with which we are familiar in other parts of India. In the more important examples of those *chaitya*-halls, such as those at Bedsā, Bhājā, Ajaṇṭā and Kārli, a row of free-standing columns separated the *pradakshiṇā* passage from the body of the hall. Here, in Sirkap, these columns were replaced by a wall just as they were in the peristyle of the Jaṇḍiāl temple (p. 222 *infra*). In both cases the reason for dispensing with the columns was, no doubt, the difficulty of obtaining at Taxila itself a stone suitable for their construction. None of the walls of the temple are standing to a height of more than 1 ft. above the interior floor-level, which itself is 5 ft. 6 in. above the level of the surrounding court. We cannot, therefore, be sure how the interiors of the nave and apse were lit. There is every probability, however, that there were windows in the outer wall around the *pradakshiṇā*, just as there were in the Jaṇḍiāl temple, and as they are portrayed in a bas-relief on one of the pillars of the berm balustrade belonging to Stupa III at Sāñchī.[2] Whether there were other windows, corresponding to them, in the inner walls is questionable. Light may have been admitted to the nave and apse exclusively through the entrance doorways, as it was in Greek and Hindu temples, as well as in the rock-cut stūpa-chapels of the Buddhists. When Cunningham saw the Sirkap chapel in 1862, some remains of the doorway between the nave and apse appears to have been still in existence, and he says that the doorway was 14 ft. wide—amply large enough to admit all the light that was needed in the apse. As to the main western entrance, we may conjecture that it was correspondingly large and that additional light was also admitted through an open screen above the doorway, of the type still existing, for example, in the great stūpa-hall of Kārlī and frequently figured among the carvings of the Early Indian School.[3] This assumes that the temple had an ogee fronton like every other temple of this class, and that the roof was arched. As to the latter, I do not think that there can be any real doubt, notwithstanding that nothing has survived of the roof except large iron clamps and nails and charcoal. These materials, which prove that timber was used largely in its construction,[4] would, of course, have been equally present if the roof had been flat, as I surmised when I first excavated the building. What leads me to believe that it was arched is the fact that these apsidal stūpa-chapels were introduced by the Buddhists from down country, and that this was the earliest example of its kind known to us, not only at Taxila but anywhere

Elevation of *griha-stūpa*

[1] *Ibid.* v, Pl. XIX.

[2] Cf. Marshall and Foucher, *The Monuments of Sāñchī*, III, Pl. XCIII, *g*.

[3] Cf. Fergusson, *History of Indian and Eastern Architecture*, I, pp. 134 *sqq*.

[4] No tiles of any kind were found in the debris, and it is probable, therefore, that the roof was covered with metal sheeting. A flat roof would, no doubt, have been covered with earth or lime concrete.

throughout the North-West. Even if, therefore, some modifications in the traditional design of these buildings were subsequently introduced, it seems to me highly improbable that in this, the first structure of its kind to be erected at Taxila, the builders could have departed so far from established precedent as to substitute a flat roof in place of the orthodox curvilinear one. In such matters the Buddhist church was peculiarly conservative and would naturally have been opposed to so radical an innovation. And here I may add that the latest example of the apsidal stūpa-chapel at Taxila is the one at Kālawān described on pp. 329–30, which dates from the latter part of the first century A.D. It appears, therefore, that the whole history of this type of Buddhist building at Taxila was comprised within about half a century. Evidently it was a class of structure not in favour with the architects of Taxila, and we may well believe that this was because of its rounded apse and curved roof, both of which, but particularly the latter, must have presented very real difficulties to builders not accustomed to this kind of construction.

Subsidiary stūpas in courtyard

In the courtyard of the temple, to right and left of its entrance, I uncovered the foundation of two square stūpas built of heavy limestone blocks, with smaller stones filling the interstices between them. The superstructures of the stūpas had been destroyed, probably at the hands of treasure-seekers in recent times, and only one course of the foundations had survived; but amid the enveloping debris I found a quantity of kañjūr blocks used in the facing of the structures, and a number of image heads and other decorative fragments which had once served to adorn them. These stucco pieces are described individually in chapter 26, nos. 1 to 29, and are illustrated in Pls. 148 and 149.[1] Nos. 1 and 2 are of a purely Hellenistic character, and we may conjecture that the moulds used for their casting were imported from the West. The former is the head of a Greek satyr, with pointed ears; the latter a bearded head of the Zeus type. No. 3, a female head with elaborate garland, comparable to the small terra-cotta heads figured in Pl. 133, nos. 46–9, may also have been cast in a Greek mould. The remainder (nos. 4–22) were evidently the work of local craftsmen, who for the most part were copying Hellenistic originals but occasionally making use of Indian or perhaps local Śaka or Parthian models. Thus, nos. 5 and 7–14 are all in imitation of Hellenistic prototypes and some, like nos. 4, 5 and 10, are quite laudable efforts; others, like nos. 12 and 14, have little except the chaplet they are wearing to testify to their Greek connexion. No. 6 and nos. 19–22 in this group are specially noteworthy. The four latter, with their elaborate turbans and long ear-lobes, are in all probability heads of the Bodhisattva copied perhaps from Gandhāra originals, which may well have been in existence at this time (middle of first century A.D.). The Bodhisattva Siddhartha relief reproduced in Pl. 225, no. 152, is, of course, later in date, but the turban and fantail ornament are still, it should be noted, substantially the same. Three of these turbaned heads (nos. 20–2) are from 4 in. to 5·5 in. in height and appropriate, therefore, to the decoration of the relatively small stūpas near which they were found. The fourth (no. 19) is much larger, measuring 13·5 in. in height, and must,

[1] No. 11 was found in Block B, but came no doubt from this site.

therefore, have belonged to a statue of more than life-size, which could hardly have found a place on either of these small stūpas, but may have stood in front of the chapel, in the nave of which, as already noticed, Cunningham found burnt clay heads of about the same size. As to no. 6, the close-curled ringlets and top-knot which distinguish it were to become characteristic features of the Buddha type evolved in Gandhāra. It may be, therefore, that this is meant actually for the head of a Buddha image. If so, it is one of the oldest known to us.[1]

A point to be noticed about these heads is that in many of them (e.g. nos. 4, 5, 9, 10, 11, 14, 15, 16) the two eyes do not match, one being smaller than the other, or not in a line with it, or more roughly modelled. This defect is due to the fact that the figures were in high relief and that their heads did not face front but were turned to one side or the other, according to the disposition of the group, with the result that the artist found a difficulty in modelling the side of the face which was up against the stūpa wall. A similar distortion is observable in many of the smaller heads from later stūpas of the early medieval period (cf. Pls. 156, 157), and where it occurs is instructive as showing that these particular heads must have been modelled in position, not cast independently in moulds and subsequently fixed on to the bodies, as many of the stucco heads undoubtedly were.

Other objects in courtyard

Apart from the two small stūpas and their sculptures, the only objects of interest in the courtyard of the temple were a small and shallow square reservoir for water near the middle of the southern wall of the court (sq. 63·58′) and a heavy stone font which was found against the southern wall of the chapel, some 22 ft. from its south-west corner, but which originally, I imagine, stood near the entrance to the temple, so that worshippers could wash their hands before going in. To the right of the approach steps at the stūpa in Block G is a low square pedestal, which served, I have little doubt, as a support for a similar font, and this, I surmise, may have been the position occupied by the font at the apsidal temple.

Among the small antiquities from the temple court were: a circular stamp ('Pottery', ch. 23, no. 266); a toy ram ('Terra-cottas', ch. 24, no. 99); a schist toilet-tray with fish-tailed monster ('Stone', ch. 25, no. 87); an ear-plug of rock crystal (*ibid.* no. 159), a bone antimony-rod ('Bone and Ivory', ch. 32, no. 38); a copper finger-ring with engraving of Nike ('Finger-rings', ch. 31, no. 45); two small groups of coins, one (sq. 57·66′) comprising one of Azes II ('Mounted king and Zeus standing'), two of Kadphises I ('Hermaeus bust and Heracles'), and one of Kadaphes ('Head of Claudius(?) and king seated'); the other (sq. 60·62′) comprising seven coins of Azes II (same type) and one of Kadphises (same type).

House 2 D

Abutting on to the back wall of the temple court on its outer (eastern) side are the remains of a house (2 D), which may have been occupied by someone connected with the temple (Pl. 25, *b*). As in the case of House 3 C, which abuts on to the north wall of the court, there appears to have been some encroachment on the west side of this house when the apsidal temple was erected, and both properties may then

[1] The figure of Indra of the first century B.C. on a railing pillar at Bodh Gaya (Coomaraswamy, *History of Indian Art*, Pl. XI, fig. 40) which is portrayed with the characteristic *ushṇīsha* of the Buddha, has clearly had its head recarved in later times.

have been taken over and reserved for the use of the temple management. This is nothing but a surmise, but the point is of interest in connexion with a valuable hoard of gold and silver objects which was found beneath the floor of a room right up against the temple wall (sq. 58·47′; 7 ft. 6 in. below surface). The hoard, which comprises much gold jewellery and numerous vessels of silver (Pl. 27, *c*), was no doubt hidden, like most of the other treasures found among these buildings, at the time that the city was sacked by the Kushāns. The fact that several of the vessels bear the names of different persons suggests that the vessels may have been gifts to the temple and the names those of the donors who presented them, but the presence of the names might be equally well accounted for in other ways. The objects composing this hoard were as follows:

Hoard of jewellery and silverware

Gold and silver jewellery

1. Pair of gold ear-rings of the 'disk-and-pendant' pattern, enriched with full-blown flower surrounded by bands of beading, scroll and chainwork, and centred by a beaded circlet once filled with turquoise paste ('Jewellery', ch. 30, nos. 3, 4 = Pl. 190, *d*).

2. Ditto with variation in the design (*ibid.* nos. 5, 6 = Pl. 190, *f*).

3. Five pairs of gold ear-pendants of 'leech-and-pendant' type (*ibid.* nos. 15–24 = Pl. 190, *h*).

4. Two pairs of hollow gold ear-rings of heart-shape pattern (*ibid.* nos. 48–51 = Pl. 191, *g*).

5. Gold necklace containing eighty-nine pieces of 'spearhead-and-drop' pattern (*ibid.* no. 62 = Pl. 192, *d*).

6. Gold necklace containing twenty-three plain tubular beads (*ibid.* no. 67).

7. Four necklace terminals of gold, each composed of a pair of fishes with single tail (*ibid.* no. 74).

8. Gold girdle of fish pattern, comprising six groups of three fishes abreast with a circular medallion for the clasp, the latter inlaid with white orthoclase felspar and rock crystal (*ibid.* no. 78 = Pl. 194, *b*).

9. Two groups of triple fishes belonging to a gold girdle similar to foregoing (*ibid.* no. 79).

10. Hair-pin of silver with gold head of *nandipada* design above crescent and cube (*ibid.* no. 101 = Pl. 191, *z*).

11. Eight gold bangles with trumpet-shaped ends (*ibid.* nos. 125–32 = Pl. 195, *d, g*).

12. Torque of beaten gold on core of lac (?) (*ibid.* no. 146 = Pl. 195, *h*).

13. Four double-ring anklets of silver of Indian pattern, enriched with a variety of repoussé designs, including bands of lotus rosettes, sinuous vine borders, full-blown lotuses centred with human busts, quatrefoil flowers and cable edgings (*ibid.* nos. 148–51 = Pl. 196, *g*).

14. Fourteen single-ring anklets of silver, open in front and furnished with a sliding and decorated socket to cover the aperture (*ibid.* nos. 152–65 = Pl. 196, *f*).

15. Twenty rosettes of gold with six petals (*ibid.* nos. 179–98 = Pl. 191, *r*).

Silver plate

16. A plain jug of silver with ring handle attached to neck ('Silverware', ch. 29, no. 1 = Pl. 187, no. 1).

17. Silver *askos* vase with trumpet base and handle of knotted wire terminating in vine leaves. Round its neck is a Kharoshṭhī inscription to the following effect: 'Year 191. Of Jihoṇika, Satrap of Chukhsa, son of (Maṇigula, brother) of the Great King.' The era is not specified but in all probability is the early Śaka era of *c.* 155 B.C., which the Śaka satraps of Chukhsa would naturally continue to employ, the year 191 thus corresponding with *c.* A.D. 36. Jihoṇika is Zeionises, and Chukhsa, his satrapy, appears to have lain on both sides of the Indus, including the Peshāwar valley and most of the Hazāra, Attock and Miānwāli districts (pp. 48, 61 *supra*). The 'great king' at that time was Gondophares. The title 'brother of the king' was, as I have already noted, an honorific one and need not imply that Zeionises was a nephew by blood of Gondophares (*ibid.* no. 2 = Pl. 187, no. 2 and Pl. 188, no. 2).

18. Two *aryballoi* of silver with lids attached by chain and ring (*ibid.* no. 4 = Pl. 188, no. 4).

19. Three silver goblets with carinated and fluted sides, of a shape found also in copper, bronze and earthenware (*ibid.* no. 5, *a–c* = Pls. 187, 188).

20. Five shallow bowls of silver, two bearing the same inscription in Kharoshṭhī: 'Of Theodorus, the son of Thavara' (*ibid.* no. 7 = Pls. 187, 188, no. 7, *a*, *b*).

21. Three circular bowls of silver with low trumpet bases (*ibid.* no. 8 = Pls. 187, 188, no. 8).

22. Two silver cups with flat bases (*ibid.* no. 9 = Pls. 187, 188, no. 9).

23. Round silver dish of the Greek *phiale mesomphalos* pattern with inscription in Kharoshṭhī giving the name of the owner, Miṁjukrita, and the value of the vessel, 30 staters, 2 drachms. That the latter do not represent the weight of the vessel is clear from a comparison with other inscribed vessels, the weights of which can be tested. The coin designated 'stater' is evidently the current silverpiece containing about 148 grains, and that designated 'drachm', the quarter-stater containing about 37 grains, which the Greeks would have called a hemidrachm. Cf. pp. 609–10 (*ibid.* no. 10, *a* and Pls. 187, 188).

24. Five circular saucers of silver with flat, roll bases and everted sides (*ibid.* no. 12 and Pls. 187, 189).

25. Rectangular plate of silver with roll rim, on four legs. On the back is a Kharoshṭhī inscription giving the name of the owner, Muṁjukrita, and the value of the plate, 20 staters, 1 drachm (*ibid.* no. 13 and Pls. 187, 188).

26. Shovel-shaped spoon of silver with straight handle terminating in knob (*ibid.* no. 17, *a* and Pls. 187, 189).

27. Circular strainer of silver with broad flat rim and ring handle (*ibid.* no. 18 and Pls. 187, 189.

28. Conical strainer of silver, in imitation of basket work, with two ring handles and Kharoshṭhī inscription giving the name of the owner, Jhaṁdanama, son of Gomanada (*ibid.* no. 19 and Pls. 187, 189).

29. Two circular concave lids of silver with looped fish-shaped handles in middle of concave upper side (*ibid.* no. 20, *a*, *b* and Pls. 187, 189).

30. Broken handle of silver spoon, terminating in leaf (cf. *ibid.* no. 17, *b*).

Among the ruins in the same area as the above was found the seated figure of terra-cotta described under 'Terra-cottas', ch. 24, no. 34, and figured in Pl. 133.

The next three blocks of houses (E, F and G) on the east side of the Main Street afford as good an idea of house-planning of this period as can be got from any part of the ruins.

In Block E there is no shrine opening into the Main Street, the whole frontage being occupied by a row of small shops. The house at the back of these shops (1 E) contains four courts, distinguished in the plan (Pl. 24) by the letters *a*, *b*, *c* and *d*. The principal one of these is court *b*, with an open rectangle in the centre encompassed by chambers on all four sides. This court, which has the appearance of a complete house by itself, was constructed after the earthquake on the ruins of the older edifice and is a good example of the practice then adopted of building a house within a house (cf. pp. 145, 147 *supra*). The object of designing it as a virtually detached unit in relation to the rest of the house, and providing, as far as possible, a clear space round about it, was evidently twofold: on the one hand, to eliminate the danger of adjacent buildings collapsing on to it; on the other, to permit of the

Block E

insertion of windows in its outer walls without risk of the rooms being overlooked from the public streets. There may have been some subsidiary structures in the strips of ground which bound it on the north and west, but they were probably not high enough to constitute a danger.

Court *d* was provided with three roughly aligned chambers on its south side and a fourth on its west, the rest of it being paved with cobble-stones and open to the sky. The rooms attached to the other two courts (*a* and *c*) belong to the later Śaka period and, like most of the structures of that period, show careless plotting. In court *a*, near the north-west corner of the house, stood a circular stūpa (Pl. 27, *a*), which must be one of the oldest stūpas known to us in the north-west of India. This interesting monument had been lifted bodily from its base and thrown almost upside down, no doubt by the great earthquake, since no ordinary human agency could possibly have done it without ruining the stone-in-mud masonry of which the stūpa is built. As will be seen from the photo on Pl. 27, *a* and the drawing on Pl. 120A, the stūpa is decorated with a bold design of conventional acanthus foliage modelled in thick lime plaster and painted. Beneath this stucco work the facing is of kañjūr ashlar on a core of rubble. An unusual feature of the acanthus ornament is that the leaves point downwards instead of upwards. The same peculiarity is found in several carvings of the Gandhāra School, e.g. on a Persian 'bell' capital figured in a Gandhāra relief from Swāt, now in the Louvre Museum,[1] and on three small capitals figured below on Pl. 214, no. 27, *a–c*. It also appears on a capital, exhibiting Gandhāra influence, from Mathurā.[2]

Stūpa in court *a*

What makes this little stūpa specially interesting is the fact that it was older than the rest of the house, its base coinciding with the floor-level, not of the second stratum but of the third. Whether it was of Buddhist or Jaina origin we do not know, but evidently it must have been an object of special veneration, for when the contemporary buildings of the third stratum round about it were destroyed and new ones erected at a higher level over their debris, the builders were careful to preserve this stūpa by constructing a sort of shallow basin around its plinth in the courtyard of the new house and thus keeping the whole structure exposed to view. Precisely the same thing happened, as we shall see later, at the Pippala Monastery.

The date of the stūpa thus falls in the latter half of the first century B.C., to which period we must also assign some of the small stūpas of about the same size and shape that stood in a ring around the great Dharmarājikā (pp. 240 ff. *infra*). Whether the acanthus decoration also dates from that time is open to question. In all probability it does; but it may have been a later renovation made at the time when the house in stratum II was built. In any case, it was prior to the great earthquake of *c*. A.D. 30.

In the surrounding wall of this house (1E) at the north-east corner of court *d*, there is a short alley way just over 20 ft. in length from east to west. Such short alleys ordinarily mark an entrance to a court and imply the existence of a lane from

[1] Foucher, *L'Art gréco-bouddhique du Gandhāra*, I, p. 226, fig. 105.

[2] V. A. Smith, *Jain Stūpa and other Antiquities of Mathurā*, Pl. LI, no. 2.

which the entrance could be reached. In this case the lane has disappeared, having apparently been encroached upon by the group of tenements (2 E) on this side of the house.

Minor antiquities from House 1 E

The minor antiquities from this house are among the most interesting recovered at Taxila. Under the floor of the small room (sq. 77·66′) at the south-west corner of court *b* was the bronze statuette of the Egyptian child-god Harpocrates described in the List of 'Copper and Bronze Objects', ch. 28, no. 417 and figured in Pl. 186, *e*. The statuette, which is of characteristic Graeco-Roman workmanship, came in all likelihood from Alexandria, which was the chief centre of the Harpocrates cult, though similar statuettes appear to have been made in other parts of the Graeco-Roman world. About 2 ft. below this statuette I also brought to light a small earthenware pot closed at the top with the round boss of a shield and containing the jewellery and other articles enumerated below. The shield boss ('Silverware', ch. 29, no. 22; Pl. 187, no. 22) is composed of two thin plates of metal—an iron one on the inside, a silver one on the outside, riveted together with silver nails and furnished on the inside with looped strips of iron for the attachment of the handle. The articles inside the pot (Sk. '13 194) were as follows:

Statuette of Harpocrates

Hoard of jewellery, etc.

1. Head of Dionysus or Silenus in silver repoussé, supported on a silver stand and used apparently as a table-ornament. The god, who has a vine wreath on his bald head, holds a two-handled wine cup in his right hand, while behind his head is his curved staff or *thyrsus*, with a bell suspended from its end (*ibid.* no. 21 = Pl. 209, *a*).

2. Silver spoon with rat-tail ridge and cloven-hoof handle (*ibid.* no. 16 = Pl. 187 and Pl. 189, no. 16).

3. Pair of gold ear-pendants of 'leech-and-pendant' pattern consisting of a plain leech crescent with clasp and a 'bud' pendant suspended from it by a movable ring ('Jewellery', ch. 30, nos. 9, 10 = Pl. 190, *g*).

4. Gold ear-pendant of the 'flower-and-pendant' pattern (*ibid.* no. 30; cf. Pl. 190, *e*).

5. Ear-ring made of gold wire with ends coiled back in a spiral covering half the ring (*ibid.* no. 35 = Pl. 191, *c*).

6. Pair of gold ear-rings of leech pattern with ends drawn out fine and coiled in spiral over ring (*ibid.* nos. 42, 43; cf. *A.S.R.* (1912), p. 27, no. 15 and Pl. XXII, *a*).

7. Six cylindrical necklace pendants of gold openwork on cores of green jasper and turquoise paste (*ibid.* no. 59 and Pl. 191, *h*).

8. Gold necklace of sixty hollow spherical beads (*ibid.* no. 64 and *A.S.R.* (1912), p. 27, no. 20 and Pl. XXII, *b*).

9. Gold neckchain composed of four double-plaits fitted with hook and ring fastener (*ibid.* no. 68 = Pl. 192, *g*).

10. Seven spacer-beads of openwork gold, originally inlaid with paste (*ibid.* no. 70 = Pl. 192, *b*).

11. Two hollow club-shaped pendants of gold (*ibid.* no. 91 = Pl. 191, *l*).

12. Four hollow gold bangles with trumpet ends (*ibid.* nos. 116–19 = Pl. 195, *c*).

13. Plain oval locket of gold, with gem missing (*ibid.* no. 211).

14. Two box-settings of gold, one inlaid with carbuncle (*ibid.* nos. 212, 213 = Pl. 191, *bb*).

15. Gold finger-ring of thin metal on core of lac or mastic; carnelian setting engraved with cornucopia, fluted vase and spear ('Finger-rings', ch. 31, no. 13 = Pl. 197, no. 13).

16. Solid gold finger-ring with oval bezel bearing *nandipada* symbol and Kharoshṭhī legend: *Sadhalasa* (*ibid.* no. 14 = Pl. 197, no. 14).

17. Gold finger-ring with disk bezel engraved with legend in Kharoshṭhī and Brāhmī: *Mahayaśa putrasa Manavasa* (*ibid.* no. 15 = Pl. 197, no. 15).

18. Solid gold finger-ring with flat rectangular bezel and lapis-lazuli setting. The stone bears the figure of a Greek warrior armed with spear and shield, with an inscription in early Brāhmī characters: *Samanavasa* (*ibid.* no. 16 = Pl. 197, no. 16).

Second hoard of later date

The treasure described above seems to have been buried at the same time as several other treasures found in the Śaka-Parthian stratum, viz. about A.D. 60, when Taxila was threatened by the advancing hosts of the Kushāns. Another small treasure, found in the same house but in different conditions, is, in all probability, somewhat later in date. In this case, the articles were not buried with care, as the others were, beneath the floor of one or other of the rooms, but were dropped—obviously in haste—into the bottom of a great store-jar which stood on the cobble paving in courtyard *b* (sq. 77·65′). Now, there is evidence to show that the Kushān conquerors occupied Sirkap for some years after the overthrow of the Parthians, at least until Sirsukh was ready to take its place, and accordingly it is reasonable to suppose that this courtyard was buried in debris at the time of the sack of the city by the Kushāns; that the debris was subsequently levelled up and another floor (stratum I) laid above it; and that, later still, the store-jar was buried up to its neck (as was then the general practice) beneath this second floor. In other words, that the jar and its contents are referable to the first, not to the second, stratum. Support for this view is given by some coins of great interest which were found along with the other articles. The contents of the jar were as follows:

1. Gold repoussé figure of winged Aphrodite or Psyche similar to a figure found in Block D′ but of coarse workmanship. The goddess is standing on a lotus pedestal, resting her left elbow on a short pillar and her right hand on her hip; her drapery falling across her thighs and leaving the rest of the body bare. For further details and for similar figures in Graeco-Roman art, see 'Jewellery', ch. 30, nos. 96, 97 = Pl. 191, *s*, *t*.

2. Circular medallion brooch of gold repoussé work decorated on face with winged Eros reclining (?) on flowing draperies (*ibid.* no. 99 = Pl. 191, *w*).

3. Gold necklace of seventy-four pieces similar to the one illustrated in Pl. 193, no. 61, but with five instead of four circlets in each segmented piece (*ibid.* no. 60 = *A.S.R.* (1912–13), Pl. XXII, *b*, no. 4).

4. Nine oval intaglios of jacinth cut *en cabochon* and engraved with various full-length figures and busts ('Finger-rings and Gems', ch. 31, nos. 71, *a–i* = Pl. 207, no. 10, *a–i*).

5. Oval carnelian with flat face engraved with intaglio bust but broken (*ibid.* no. 72).

6. Two oval intaglios of glass (*ibid.* no. 73).

7. Three garnets *en cabochon* of dot-and-comma pattern, evidently intended for encrusted or cloisonné inlay, as in the gold bracelets nos. 137, 142 = Pl. 196, *a*, *d*.

8. Pieces of turquoise paste and crystal of various patterns cut both *en cabochon* and flat, and intended for jewellery settings.

New types of silver coins

9. Twenty-one silver coins belonging to the transition period between Parthian and Kushān rule in the North-West. Eight of these coins bear the name of Sasan, five of Sapedanes (?), five of Satavastra, and three of Kadphises. These twenty-one coins merit our close attention; for

Sasan

they are all new types. Several of those of Sasan appear to have been restruck on earlier fabrics. These bear on the obverse a bust which may be that of Pacores, accompanied by the symbol of Gondophares and a corrupt Greek legend, and on the reverse the figure of Nike

standing to l. with wreath and palm branch and the legend: *Maharajasa Aśpabhataputrasa tratarasa Sasasa* = 'Of the great king, the saviour Sasan, son of the brother of Aśpa.' This Aśpa is without doubt the Aśpavarma, who was *strategos* under Azes II and Gondophares. During the latter's reign his 'nephew' Sasan appears to have succeeded him (though not with the title of *strategos*) and later on, under Pacores, assumed the title of mahāraja (p. 62 *supra*). Whether his father was actually a brother of Aśpavarma or whether the title was merely honorific, as in many other cases, is debatable (R.U.C. ch. 39, nos. 201–8).

Sapedanes and Satavastra

The coins of Sapedanes and Satavastra exhibit, on the obverse, the bust of a king with the Gondophares' symbol alongside and a corrupt Greek legend; on the reverse, a Nike with wreath and palm and the legends, respectively: *Maharajasa rajarajasa tratarasa dhramiasa Sapedanasa* (?), and *Maharajasa tratarasa Satavastrasa*. Rapson takes the portraits to be of Gondophares and argues from the lofty titles assumed by Sapedanes that 'even in the reign of Gondophares, the allegiance of the governors to the suzerain was becoming merely nominal'.[1] Personally, I can detect no resemblance between the portraits and those of Gondophares, and I see no reason for supposing that they represent any rulers but those whose names appear in the legends. Where their kingdoms were situate is not known for certain. That neither of them ruled at Taxila is clear from the rarity of their coins there. Sapedana or Sapedanes, to give his name its Greek form, may possibly be identical with the prince called Sandanes in the *Periplus*, who appears to have been ruling in the third quarter of the first century A.D. and whose dominions probably included Surashtra and Barygaza (cf. pp. 60, 776–7; R.U.C. ch. 39, nos. 211–21).

Kadphises I

The three remaining coins in this hoard supply an important link between the Parthian and Kushān rulers. These coins are also of silver and generally similar to the issues of Sasan, Sapedanes, and Satavastra described above, with a bust of the king on the obverse and winged Nike holding a wreath on the reverse, but the bust is that of a Kushān king, who is described in the legend as *Maharajasa rajatirajasa Kushanasa ya(vugasa)* = 'Of the great king, supreme king of kings, the Kushān chief (*jabgou*)'. These Kushān coins are clearly imitations of Parthian prototypes current in the North-West up to the time of the Kushan invasion, and their close resemblance to the other silver coins in this hoard leaves no room for doubt that they were struck very soon after that invasion. Whether it was Kujūla or V'ima Kadphises who issued them is disputable, but the evidence on the whole seems to be in favour of the former rather than the latter (cf. pp. 785–6 and R.U.C. ch. 39, nos. 258–60).

Other finds in Block E

Among other small objects found in Block E may be noticed the following:[2]

1. A shapely goblet of earthenware with flared mouth ('Pottery', ch. 23, no. 87).
2. An earthenware lamp with ornamental spout (*ibid.* no. 139).
3. Small pillar of terra-cotta with circular moulded base and Corinthian capital, finely modelled ('Terra-cottas', ch. 24, no. 126 = Pl. 135, *hh*).
4. Toilet-tray of grey schist, diameter 6·5 in., divided into nine sunk compartments, as in 'Stone Objects', ch. 25, no. 68. In the centre are the busts of a male and female embracing and holding a cup. In each of the four corner compartments is a quatrefoil rosette, and in the other four compartments conventionalised lotus leaves. This toilet-tray is not included in the 'List of Stone Objects', but is described and illustrated in *A.S.R.* (1912–13), p. 28, no. 1 and Pl. XXIII, *e*.
5. Toilet-tray of micaceous schist with winged griffin in upper compartment and palmette or rays in lower ('Stone Objects', ch. 25, no. 80 = Pl. 145, no. 80).

[1] *C.H.I.* I, p. 580.

[2] A list of these miscellaneous objects with illustrations is given at pp. 28–9 of my *Archaeological Report* for 1912–13, with Pls. XXIII and XXIV. Only selected specimens are noticed here.

6. Similar, with winged monster on lotus background (*ibid.* no. 86 = Pl. 145, no. 86).

7. Stone saucer of hornblende-gneiss, probably dating from Maurya times (*ibid.* no. 43).

8. Saucer of micaceous schist and lamp of same material (*ibid.* nos. 45, 110).

9. Copper ewer of Hellenistic pattern with domical lid attached by chain and dolphin handle ('Copper and Bronze Objects', ch. 28, no. 263 = Pl. 174, no. 263).

10. Two copper spoons with circular bowls and straight handles. One of these is described in 'Copper and Bronze Objects', *ibid.* no. 311; the other, which is broken, in *A.S.R.* (1912–13), p. 29, no. 22 and Pl. XXIV, *b*, 1.

11. Four copper or bronze hair-pins with ornamental heads. One of these, 4·25 in. long, has a discoid head inlaid with ivory (Pls. 173, *v* and 182, *p*, no. 8); another, a crescent head (Pls. 173, *aa* and 182, *p*, no. 10); a third, an inverted crescent head (Pls. 173, *w* and 182, *p*, no. 13); and a fourth, a small figure of Aphrodite similar to 'Copper and Bronze Objects', nos. 227, 228 (*A.S.R. ibid.* Pl. XXIV, *c*).

12. Copper bangle, diameter 3·25 in., with trumpet ends similar to many gold bangles found on this site ('Jewellery', ch. 30, nos. 116–32; cf. *A.S.R. ibid.* Pl. XXIV, *c*).

13. Two stoppers of antimony-phials in the form of a cock ('Copper and Bronze Objects', ch. 28, nos. 246–8 and Pl. 182).

14. Copper 'reed' pen (κάλαμος) with round shaft (*ibid.* no. 341).

15. Iron bowl ('Iron Objects', ch. 27, no. 11).

16. Pair of iron side-pieces for a horse bridle (*ibid.* no. 100, *a*, *b*).

17. Bone hair-pin and ear-cleaner ('Bone and Ivory Objects', ch. 32, nos. 33, 42).

18. Copper seal engraved with the name *Jadilasa* or *Sadilasa* in Kharoshthi ('Seals and Sealings', ch. 34, no. 22).

19. Silver bowl with flared mouth and cordon moulding ('Silverware', ch. 29, no. 6).

20. Silver ladle inscribed with six Kharoshthi letters (*ibid.* no. 15).

21. Piece of ribbed bowl of blue and white glass and two plano-convex lenses of blue glass ('Glass Objects', ch. 35, nos. 9, 17).[1]

22. Five groups of coins. One of these (sq. 74·63′) contained forty-seven coins of Kadphises I of the Hermaeus and Heracles type; another (sq. 69·53′) four coins of Azes II and Aśpavarma ('Mounted king and Pallas'); a third (sq. 73·56′) one Local Taxilan ('Lion and blank'), one of Azes I ('Poseidon and Vine goddess = *B.M. Cat.* XIX, 10), one of Azes II ('Mounted king and Zeus standing'), and one of Kadphises I ('Hermaeus bust and Heracles'); in the other two were coins of Azes II (same type), Kadphises I (same type) and Gondophares ('Mounted king and Zeus Nikephoros' and 'Bust of king and Pallas'). One of these last-mentioned groups was found in square 77·66′; the other in square 68·62′.

From a lower level (depth 10–11 ft.) below Block E came the copper casket and inkpot described under 'Copper and Bronze Objects', ch. 28, no. 252, *a* (Pl. 36, *d*) and no. 330 (Pl. 176, no. 330) and the camel brooch (?), *ibid.* no. 427 (Pl. 185, *s*).

Block F

The next Block (F) has an irregular alignment on its south side, a part of Eighth Street having been pushed some 60 ft. north, in order, apparently, to make room for an enlargement of the principal house in Block G.[2] Fronting Block F towards the Main Street is a stūpa-shrine of remarkable interest, to which we shall return presently, and, flanking it, on either side, the usual double line of shops. The house

[1] For other minor objects from this Block, see 'Pottery', ch. 23, no. 195; 'Terra-cottas', ch. 24, no. 86; 'Iron', ch. 27, no. 129; 'Copper and Bronze', ch. 28, nos. 36, 220, 366, 382; 'Bone and Ivory', ch. 32, no. 77; 'Finger-rings', ch. 31, no. 20.

[2] As a result of this, Eighth Street, instead of lying parallel to Seventh and Ninth Streets, starts in square 101·70′, runs east for 30 ft., then turns north for 60 ft., and then east for 130 ft., where there is a small open square, and beyond that the street again makes a turn to the north and east.

(1 F) immediately at the back of these (Pl. 24) covered an area of about 18,000 sq. ft., with more than thirty rooms on the ground-floor and six small open courts, viz. the three interior ones, *a*, *b* and *c*, the larger Court *d* stretching across the eastern side, and the smaller Courts *e* and *f*. The main entrance to the house appears to have been at the south-west corner, i.e. leading off from Eighth Street behind the shops. The range of seven small rooms at the back of the latter were doubtless meant for the household servants.

The stūpa-shrine in this block stands in a court roughly 40 ft. square internally, but rather more from east to west than from north to south (Pls. 28 and 30, *a*). Three steps from the Main Street led up to the entrance, which was in the middle of the western side. Within the court, against the west wall, were four chambers — two to the right and two to the left of the entrance—which were no doubt occupied by the keepers of the shrine. All of these, and the wall surrounding the court, were built of coursed rubble masonry of the kind in vogue in the Śaka period. Stūpa in front of House 1 F

Of the stūpa itself only the base has survived. It measures 21 ft. 10 in. north and south by 26 ft. 10 in. east and west, including the steps on its western side. Its core is of rubble, with a facing of squared kañjūr. Round the foot of the base runs a well-cut moulding consisting of a torus and scotia divided by a fillet, above which is a row of pilasters surmounted by brackets with a frieze and dentil cornice at the top. The sides and back of the stūpa are less ornamental than the front. On the two sides the centre one of the five pilasters has a circular shaft and Corinthian capital; the rest have squared shafts and capitals consisting of plain mouldings, except at the western corners, where the capitals are of the Corinthian order. On the front façade all the pilasters are Corinthian, two having rounded and the remainder flat shafts. The interspaces between the pilasters on this face are relieved by niches of three different patterns. The two nearest the steps resemble the pedimental fronts of Greek buildings; those in the centre are surmounted by ogival arches resembling the so-called 'Bengal' roofs; those at the corners take the form of early Indian *toraṇas*. Perched on the top of the central and outer niches are birds, one of which is a double-headed eagle.

The whole facing of kañjūr stone, including mouldings, pilasters and other decorations, was originally finished with a thin coat of fine stucco, but, as time went on, several other and coarser coats were added, some of which showed traces of red, crimson and yellow paint.

Although the upper part of the stūpa has completely fallen, various architectural members, recovered from the debris, make it possible to reconstruct the design of the superstructure. In the centre of the base was a high drum surmounted by a dome, which was crowned in turn by a *harmikā* and umbrella shaft (*chatravali*) carrying three umbrellas. Both drum and dome may have been adorned with decorations in relief executed in stucco and painted. Round the edge of the base, and presumably also flanking the steps, was a low balustrade of kañjūr stone finished with plaster, 3 ft. 8 in. in height. A section of this railing and the umbrella shaft have been pieced together and set up in the local Museum (Pl. 34, *c*).

Comparison with stupa figured on Mathura relief

A general idea of the appearance of the stūpa, when intact, may be obtained from a relief of the Mathurā School published in V. A. Smith's *Jain Stūpa and other Antiquities of Mathurā* (Pl. CIII), which appears to have been executed not long after the erection of this building. But in the relief referred to the style of the structure is more pronouncedly Indian than in the Sirkap example. In the latter, the whole basis of the decorative scheme is Hellenistic, the mouldings, pilasters, dentil cornice and pedimental niches being all classical, while the only Indian features are such subsidiary details as the *toraṇa*, the ogival niche, and the brackets above the pilasters. It is to be noted that these last have a curvilinear form; the brackets of a later date are approximately rectangular with merely a notch cut near their extremities.

The relic chamber of this stūpa, which had been rifled of its contents in days gone by, was set in the centre of the base at a depth of 3 ft. 2 in. below its top. It was 8·5 in. square by 10 in. deep, and built of four squared kañjūr blocks, with a fifth covering them.

Motif of double-headed eagle

The presence of the 'double-headed eagle' motif on this stūpa at Taxila is interesting, as supplying another link in the long chain of its migrations. This is not the place to discuss this much-travelled symbol, but it may be noticed in passing that it first makes its appearance among Hittite and early Babylonian sculptures in Western Asia; later, it is found on an early ivory of the Geometric Period from Sparta; still later it seems to have been particularly associated with the Scythians, and we may well believe that it was they—the Śaka—who introduced it at Taxila. From the Scythians, too, it appears to have been adopted into the Imperial Arms of Russia and Germany, while from Taxila it found its way southward through India to Vijayanagar and Ceylon, where it may still be seen on the banners of the Kandyan chiefs.[1]

Aramaic inscription

From Block F also came another find of a unique character. This was part of an octagonal memorial pillar of white marble with an Aramaic inscription engraved on it (Pl. 34, *d*). It was found built into the east-west party wall between the two chambers (probably shops) at the north-west corner of the building,[2] and must therefore have been in its present worn and broken condition at the beginning of the Christian era. Transcriptions of the record with notes were published soon after its discovery by Dr L. D. Barnet and Prof. A. Cowley in the *Journal of the Royal Asiatic Society*,[3] and since then it has received attention from various other writers. But the most reliable interpretation is that of the late F. C. Andreas,

[1] For the double-headed eagle motif see Karl Sittl, 'Der Adler und die Weltkugel' in *Jahrbücher für class. Phil.* Supplement XIV (1884), p. 11; Goblet d'Alviella, *The Migration of Symbols*, pp. 21 *sqq.*; M. Van Berchem and J. Strzygowski, *Amida*, (1910), pp. 93 *sqq.*; O. M. Dalton, *Byzantine Art* (1911), p. 707; E. Mâle, *L'art religieux du XIIe siècle en France* (1924), pp. 349 *sqq.*; W. S. Cook, *Art Studies* (1924), p. 58; Bernheimer, *Romanische Tierplastik* (1931), pp. 101 *sqq.*; Rudolf Wittkower, 'Eagle and Serpent' in *Journal of the Warburg Institute*, II (1938–9), p. 299, n. 10. To the last I am indebted for several of the other references here given.

[2] These chambers are distinguished as A[1] and A[2] in the plan of the building in *A.S.R.* (1912–13), Pl. XV.

[3] 1915, pp. 340–7.

published after his death, from notes he had left, by Dr H. A. Winkler.[1] According to his interpretation, the inscription, which is incomplete, was set up in honour of a high official named Rōmēdōtē. The following is his translation of what survives of it, with his restorations shown in brackets:

Line 1 — — — memorial — — —
2 (he appointed) Rōmēdōtē — — —
3 Over Nāggārūdā — — —
4 the town-friend of Nāggārūdā — — — —
5 and to his (Rōmēdōtē's) father they were — — —
6 also this obedient (Rōmēdōtē) — — — —
7 through his good help (this work was accomplished) — — —
8 (to) the good order of his lord (his virtues were devoted) — — —
9 our lord (i.e. governor) Priyadarši — — —
10 the (gatekeepers) went — — — —
11 and also his (Rōmēdōtē's) sons — — —
12 (hail) for the lord Priyadarši

The name Priyadarśi ('of friendly mien' or 'gracious') may conceivably have been borne by others besides the Maurya prince Aśoka, but Aśoka is the only 'Priyadarśi' known to us, and there can be virtually no doubt that he is the governor here referred to. The inscription, however, has nothing to do with any of Aśoka's well-known Edicts, the earliest of which was not issued until about 259 B.C., some fifteen years after his accession to the throne. This record is evidently older. It dates from the years when, as heir-apparent of Bindusāra, he was ruling as Viceroy (or Governor, as he is here specifically called)[2] of Taxila and the North-West. Aramaic no doubt continued to be used at Taxila, at least for administrative purposes, for some time after the city had ceased to belong to the Persian Empire, and the young prince Aśoka would not be likely to make any change in this respect. It was only later, after he had become emperor, that he started issuing his Indian edicts, and even then he based them on Persian models.

According to Andreas, the name Nāggārūdā (lit. 'carpentry') is the Aramaic equivalent of Takshaśilā, which is explained as being formed from *takshan* = 'carpenter', and *śīla* 'nature', 'habit'.

The discovery of this Aramaic inscription at Taxila is of especial interest in connexion with the origin of the Kharoshṭhī alphabet, since it confirms the view that Kharoshṭhī was derived at Taxila (which was the chief city of the Kharoshṭhī district) from Aramaic, the latter having been introduced into the North-West of India by the Achaemenids after their conquest of the country at the close of the sixth century B.C. That Aramaic was used as an official language by the Persian Government has long been known, but its use as a lingua franca was not, as a

Aramaic and Kharoshṭhī

[1] *Nachrichten von der Gesellschaft der Wissenschaften zu Göttingen. Phil.-Hist. Klasse* (1931), pp. 6–17.

[2] The Aramaic word used in this record had a definite meaning under the Achaemenids, designating the highest official, or Governor, of a province.

matter of fact, initiated by the Persian Empire. 'It was used', says Dr Cowley, 'in much earlier times, not for monumental or literary purposes so far east, but as a trade language side by side with the impossible cuneiform system, as is shown by the "dockets" on Babylonian tablets. Under Assurbanipal (from 668 B.C.) an Aramaean copyist was officially employed as well as an Assyrian (Hommel, *Geogr.* I, p. 191). By the Persians this was further extended, whether or not we believe with Hommel (*ibid.* p. 202) that the O.P. cuneiform is derived from some form of "Phoenician-Aramaic" alphabet. The use of cuneiform for writing Persian did not last long, and after the fall of the empire, when we next meet with written Persian, it is in various forms of the Aramaic character. It is not difficult to see how the alphabet would eventually reach India. This inscription is the first proof that it did get there. Its date is nearly that of the first specimens of Kharoshṭhī, and it thus forms a sound basis for comparing the two systems of writing.'

Building 2F

Immediately to the east of the large courtyard *d* above referred to is a spacious rectangular structure, of which only the western half has been excavated (Pl. 31, *a*). From north to south it measures a little over 100 ft.; its depth from east to west has not yet been ascertained. The walls are built of the same diaper masonry and are distinguished by the same deep foundations as the apsidal stūpa-chapel in Block D, and there can be no doubt that the building dates from the same period, i.e. from about the fourth decade of the first century A.D. What purpose it served there is as yet no evidence to show, though it may perhaps be revealed when the rest of the edifice has been cleared.

Miscellaneous objects from Block F

Among the small objects from Block F may be mentioned in particular a two-handled amphora of earthenware ('Pottery', ch. 23, no. 81); a female terra-cotta head of Hellenistic type, and another small male head wearing a conical Scythian cap ('Terra-cottas', ch. 24, nos. 47, 51); pieces of two glass bowls of western manufacture, one made of lace glass (*vitro di trina*), the other of ribbed, amber-coloured glass ('Glass', ch. 35, nos. 6, 8); and an oval seal of shell engraved with a standing figure ('Seals', ch. 34, no. 35). Other miscellaneous objects from the uppermost strata of this block include:

Pottery. Ch. 23, no. 22 (bell-shaped flask); no. 137 (lamp with centre handle); no. 161 (bellows pipe); no. 189 (basin cover); no. 210 (small pipe).

Terra-cottas. Ch. 24, nos. 63, 76, 81 (toy animals).

Stone. Ch. 25, no. 102 (steatite casket); no. 146 (claystone mould for finger-rings); no. 164 (ear-reel of banded agate).

Iron. Ch. 27, no. 211 (plumb-bob).

Copper and Bronze. Ch. 28, no. 35 (triple-ringed ornament).

Jewellery. Ch. 30, no. 177 (gold rosette).

Shell. Ch. 33, no. 14 (natural shell, *pusiostema mendicaria*).

Bone and Ivory. Ch. 32, no. 29 (ornamental hair-pin); no. 71 (stilus).

Coins. A small group of four coins (sq. 83·65') comprising two Local Taxilan (cf. *I.M. Cat.* p. 159, no. 42 and Pl. XI, no. 2), one of Azes II ('Mounted king and Pallas') and one of Kadaphes (Head of Claudius (?) and seated king').[1]

[1] From the early Śaka level in Block F came an earthenware bowl ('Pottery', ch. 23, no. 98); a carved toilet-dish of stone ('Stone', ch. 25, no. 89); a clamp of copper ('Copper and Bronze', ch. 28, no. 380); and a comb, antimony-rod and box cover of bone ('Bone and Ivory', ch. 32, nos. 18, 37, 123).

As in the preceding Block F, the frontage of Block G (Pl. 24) on the Main Street is occupied partly by shops, partly by a small stūpa-shrine, with what may have been quarters for the priest in charge alongside. The stūpa (Pls. 27, *b*, 29 and 30, *b*) is smaller and less pretentious than the one in Block F, measuring 20 ft. east and west, including the steps, and 13 ft. 9 in. north and south. The base is 3 ft. 9 in. high. The pilasters, five in number on three of its sides, are flat, with capitals made up of horizontal mouldings. The moulding round the foot of the stūpa is the usual torus and scotia. On it the bases of the pilasters rest directly, without the intervening course which is present in the other shrine. The cornice is relieved by a bead-and-reel moulding, but is devoid of dentils. The stūpa is ascended by a flight of five steps on the west, adjoining the foot of which on its southern side is a small square plinth, which probably supported a lustral basin.

Block G

Stūpa in front of House 1 G

Of the superstructure of this stūpa only two stones, belonging to the lowest ring of the drum, remained *in situ*, but various *disjecta membra* were found amid the surrounding debris, including a large stone umbrella and parts of two columns with Persepolitan bell capitals and crowning lions, which stood on the front corners of the base, and of the balustrade which ran round its edge. The remains of the two columns comprised: (*a*) two pieces of rounded and tapering shafts measuring 6 ft. 6 in. and 5 ft. 4 in. in length, respectively, with diameters of 1 ft. 4·5 in. and 11·5 in. at their lower ends; (*b*) two bell-shaped capitals, 1 ft. 1 in. high; and (*c*) a crowning lion, 1 ft. 6 in. from head to tail (Pl. 27, *d*). All these pieces are of kañjūr stone roughly chiselled and coated with stucco in several layers, on which traces of red and yellow paint are to be seen. In a relief from Gandhāra figured in Foucher, *L'Art gréco-bouddhique*, vol. I, fig. 41, columns are depicted on all four corners of a *vihāra* base such as this, and it is not unlikely that here also there were four columns, though the remains of two only have survived. The idea of the lion pillar was taken, no doubt, from the pillars set up by the Emperor Aśoka at many of the famous monuments of Buddhism, including, in all probability, the Dharmarājikā Stūpa at Taxila itself.

In the centre of the stūpa base, at a depth of about 4 ft. from the top, was a small relic chamber, measuring 9 in. square by 7 in. deep, and constructed of kañjūr blocks covered with lime stucco. Within it was a casket of grey schist decorated with petals on the body and lid (Pls. 35, *d* and 36, *f*), and in the casket the following articles:

Contents of relic chamber

(*a*) A small box of plain gold 0·87 in. high, in which were a few pieces of calcined bone (Pl. 35, *e*). (*b*) Small ring of gold wire, 0·37 in. across, with intertwined ends. (*c*) Carnelian pendant in form of a ram, 0·68 in. from back to front (Pl. 35, *e*; Beck, *op. cit.* Pl. VII, no. 10). (*d*) Barrel-shaped bead of agate, 0·31 in. across. (*e*) Lenticular bead of carnelian, 0·25 in. diameter. (*f*) Two pieces of gold leaf. (*g*) Eight copper coins of Azes ('King seated cross-legged and Hermes' type). On the base of the casket (Pl. 36, *f*) is the rough sketch of a chicken (?). The petals decorating the lid of the casket, which are commonly described as 'lotus' petals, appear to be a stylised rendering of the alternate tongue and feathery leaf motif found on Megarian bowls, etc.[1] Another casket of similar shape and with similar decoration was found in the debris at the Dharmarājikā Stūpa.[2]

[1] Cf. Courby, *Vases grecs à reliefs*, Pl. XI, *c*; Pl. XIII, no. 19, etc.

[2] = Dh. '16–316. 1 ft. north-east of G 5 in debris.

House 1G

At the back of the stūpa-court and shops is a large, solidly built house (1G), which was reconstructed in its present form after the great earthquake and is conspicuous for the irregularity of its plan (Pl. 24). It comprises four courts and more than thirty rooms on the ground-floor, covering an area of about 24,000 sq. ft. Like the corresponding houses in Blocks E and F, it possesses an outer court (*d*) on the eastern side, with two inner courts (*a* and *b*) to the west of it, and a subsidiary court (*c*) near the north-west corner. Of these courts, *b* and *c*, together with their attached rooms, follow the alignment of the streets and other near-by buildings; in all probability they formed part of the late Śaka houses which stood here before the earthquake. Court *a*, on the other hand, with the rooms flanking it on the east, south and west, and court *d* with the rooms opening on to it from the west, were entirely rebuilt after the earthquake and followed a different alignment from the rest of the house.

Group of small tenements 2G

The other buildings in Block G, to the south and east of the house described above, are habitations of a poorer class (Pl. 21, *a*), some of which date from the late Śaka period, while others, as their alignment shows, were evidently erected after the reconstruction of the large house. In one of these smaller habitations (sq. 110·52′) was found an interesting collection of objects comprising the following articles (Sk. '26–2,215):

Collection of copper vessels and other articles from 2G

1. Copper spatula with *nandipada* handle ('Copper and Bronze Objects', ch. 28, no. 364).
2. Decapitator (?) of copper (*ibid.* no. 359).
3. Copper spoon with hoof-handle and rat-tail bowl, length 6·25 in. (cf. *ibid.* nos. 312, 313).
4. Miniature copper flask on three legs (*ibid.* no. 207).
5. Copper stopper of antimony-phial (?) in form of long-necked animal (*ibid.* no. 249).
6. Copper inkpot with high, pinched handle (*ibid.* no. 333).
7. Copper ladle, height 10 in., similar to nos. 307 and 308, *a* (*ibid*).
8. Standard goblet of copper, broken; similar to no. 269 (*ibid*).
9. Standard cup of copper, height 3·25 in.; similar to nos. 266, 267 (*ibid*).
10. Bowl-shaped bell of copper (*ibid.* no. 349).
11. Large scallop shell from the shores of Japan ('Shell Objects', ch. 33, no. 1).
12. Iron saucer, diameter 6·5 in.
13. Four iron ladles, diameter from 3·25 to 4 in.; similar to 'Iron Objects', ch. 27, nos. 24, 25.
14. Two ivory playing-dice, length 3·25 and 3·5 in.; similar to those in 'Bone and Ivory Objects', ch. 32, Class XV.
15. Nine spherical beads of agate and jasper.
16. 262 beads of shell.
17. Two discoid beads of agate.
18. Five glass beads, four of which are coral-coloured, the other burnt dark grey.
19. One rectangular and two round copper coins, much defaced and burnt. One of the latter is an issue of Azes I of the 'Bull and Lion' type.

Miscellaneous objects from Block G

Other minor antiquities found in the ruins of this block were:

Pottery. Ch. 23, no. 50 (squat cooking-pot); no. 82 (two-handled jug); no. 93 (bowl); nos. 219 and 220 (cup and standard goblet of local 'red-and-black' ware).

Terra-cottas. Ch. 24, no. 124 (playing-die).

Stone. Ch. 25, no. 4 (grey quartzite celt); no. 40 (*phiale mesomphalos* dish of grey schist); no. 60 (standard goblet of schist); no. 66 (toilet-tray of claystone with relief of man dancing

with two women); no. 72 (toilet-tray with relief of lion and rider); no. 107 (shell-shaped dipper); no. 145 (jeweller's mould of schist with lotus, star and other ornaments). Also a casket of grey schist stone (height 4·6 in.) with lotus design on lid, and incised rings round body. From square 108·62′; 2 ft. below surface (Pl. 35, *c*).

Iron. Ch. 27, no. 69 (dagger-shaped spear-head); no. 146 (beak-iron of stool pattern); no. 157 (ornamental door boss); no. 200 (two-pronged weeding fork).

Copper. Ch. 28, no. 6 (twisted wire bangle); nos. 347 and 348 (bells).

Jewellery. Ch. 30, no. 53 (silver ear-ring in form of scaly snake).

Bone and Ivory. Ch. 32, no. 41 (bone ear-cleaner, etc.); no. 49 (mirror handle); no. 62 (knife handle); no. 97 (playing die).

Finger-rings. Ch. 31, no. 33 (copper with oval bezel); no. 44 (similar, engraved with figure of Heracles holding club).

Seals and Sealings. Ch. 34, no. 17 (copper seal with fabulous creature); no. 42 (terra-cotta sealing with winged Nike holding wreath).

Coins. A group of thirteen coins from square 110·52′, comprising four coins of Azes II and Aśpavarma ('Mounted king and Pallas' type), three of Azes II ('Mounted king and Zeus standing'), and six of Gondophares (four of the 'Mounted king and Zeus to r.' type, two of the 'Mounted king and Zeus Nikephoros to l.' type).

As I pointed out in my Annual Report for 1926–7, Block H (Pl. 21, *a*, *b*), affords a typical example of the manner in which the majority of the houses in Sirkap were planned, and of the difficulty one has in trying to determine their precise limits. If the reader will turn to Pl. 32, in which a separate plan of this block is reproduced, he will see that, to the extent to which it has been excavated, it comprises seven well-defined units, each of which might conceivably have served as a separate house, or all of which might have been included in one large house. Indeed, at the time when the block was first cleared, there was still considerable doubt about this matter, but wider experience gained since then by the excavation of many other structures leaves little room for doubt that this particular block comprises only two complete houses and part of a third, with the usual row of shops fronting on to the Main Street. Of these three houses, the area of the first coincides with that of unit I excluding the line of shops; the second house consists of units II, III, IV and V; while to the third house, which is only partially cleared, belong units VI and VII. What is now quite clear, is that open courts as big as those in units II, III, IV and V are never found in small houses, and that these units therefore could not, in themselves, have constituted complete habitations, but must have formed part of a considerably larger house. In a few of the larger houses, such as B′, the courts, it is true, are unusually small, but the converse does not hold good, and we can safely conclude, therefore, that the centre house in this block contained several courts and covered the whole width of the block between Ninth and Tenth Streets. Block H

The minor antiquities found in Block H were not many. Among them may be noticed: Miscellaneous objects from Block H

An ornamental stool-quern of red Mathurā sandstone ('Stone Objects', ch. 25, no. 16); a fountain head of the early Gandhāra School in the form of a grotesque, Kubera-like figure ('Stone Sculptures', ch. 36, no. 14); and a small dish of lead (cf. 'Copper, Bronze and Lead', ch. 28, no. 292). Other objects from this block included:

Pottery. Ch. 23, no. 33 (*loṭā*).

Terra-cottas. Ch. 24, no. 123 (playing-die).

Iron. Ch. 27, no. 9 (bowl); no. 105 (socketed axe); no. 121, *c* (carpenter's chisel); no. 188 (socketed hoe).

Copper and Bronze. Ch. 28, nos. 208, 211, *d* (mirrors); no. 295 (saucer).

Bone and Ivory. Ch. 32, no. 55 (mirror handle); nos. 79, 80 (stili); no. 102 (toy table or box).

Coins. Three small groups, viz. (*a*) From square 126·68'—one coin of Hermaeus ('Bust of king and Nike'), three of Azes II ('Mounted king and Zeus standing'), and one of Gondophares ('Mounted king and Zeus Nikephoros to l.'). (*b*) From square 125·68'—one of Hermaeus and three of Azes II (same types), one of Kadaphes ('Buddha seated and Zeus'), and one of Iṁdravasa ('Mounted king and Pallas r.'). (*c*) From square 126·68'—one of Azes I ('King seated cross-legged and Hermes'), five of Azes II (same type as above), one of Gondophares ('Bust of king and Pallas'), and three of Kadphises I ('Bust of Hermaeus and Heracles').

Block I

The plan of the next block (I) towards the south is relatively well defined. Behind the usual shop frontage are two fairly spacious courts side by side, which are separated from the rest of the structure by a party wall extending in a straight line across the block from Tenth to Eleventh Street. Few rooms are connected with these two courts, and it is unlikely that they were intended for a private house. It may be surmised that, like the corresponding court in the adjacent Block J, which is next door to the royal palace, they served as administrative offices of some sort.

The rest of Block I, to the east of the party wall mentioned above, is occupied by a single large house, the full extent of which has still to be revealed. So much of it as has been exposed covers an area of about 120 ft. north to south by 170 ft. east to west, and comprises the remains of six courts. Like the houses in Blocks G and H, it was largely reconstructed in the new diaper masonry after the great earthquake.

Store-room with large store-jars

The large room in squares 137–138·52'–53', which is connected with the court in the south-east corner, appears to have been a store-room, since I found in it a number of big store-jars lying crushed to pieces on the floor, along with a few minor antiquities, including 392 flan-shaped pieces of glass which may have been used for bead-making ('Glass', ch. 35, no. 23), a copper cock and spoon ('Copper and Bronze', ch. 28, nos. 428 and 311, *a*), and a curious 'short-square-barrel' shaped object of terra-cotta decorated with a lattice of triangles (length 2·5 in.). Other big store-jars (six in all) of a somewhat different type were found in squares 132–133·55'–56', where they probably stood in a covered veranda at the side of the court. Another feature of this house that deserves notice, since the like of it has not been found in any other building at Taxila, is a rectangular mass of masonry, in squares 132–133·61'. It measures approximately 20 × 13 ft. and contains a double line of square depressions or pits sunk in the masonry; what purpose these pits served is not apparent.

Coins of Vijayamitra and miscellaneous objects from Block I

Among the objects found in this house the most noteworthy were:

Eleven unique coins of Vijayamitra and other rulers of Kulū, viz. ten in a group from square 137·53', 5 ft. 6 in. below surface, and one from square 138·52', 3 ft. 6 in. below surface (cf. R.U.C. ch. 39, nos. 253–7); an iron tripod-stand, two pairs of iron wheels belonging to a movable brazier, and a folding chair of the same metal ('Iron Objects', ch. 27, nos. 6, 38, 54). The square copper seal ('Seals', ch. 34, no. 24) showing a Brāhman ascetic seated inside his hut

with the legend *Brahmadatasa*, is also of interest, particularly as the same motif occurs on one of the Gandhāra reliefs from Kalawān ('Stone Sculptures', ch. 36, no. 134 and Pl. 222).

Other articles from this house were:

Stone. Ch. 25, no. 26 (muller of quartzite).

Iron. Ch. 27, no. 24 (ladle); no. 43 (bell); no. 49 (key); no. 87 (arrow-head); no. 114 (adze); no. 126 (knife); no. 172 (clamping-iron); nos. 203, 207 (sickles).

Copper and Bronze. Ch. 28, no. 328 (inkpot).

Bone and Ivory. Ch. 32, nos. 72, 78 (stili); no. 98 (playing-die).

From the western part of the block near the Main Street came another iron arrow-head of the knife-blade type (ch. 27, no. 77), a miniature tripod bowl of bronze (ch. 28, no. 206) and an ivory comb (ch. 32, no. 20).

Block J

Apart from the one large court and connected rooms overlooking the Main Street, which, as already stated, may have been used for official purposes, the whole of Block J consists of small, closely packed dwellings, which, like those at the back of Block G, show very haphazard planning. One may conjecture that they were occupied by minor officials or attendants connected with the royal palace. Among the few objects recovered from them were:

Minor antiquities

A round earthenware pan ('Pottery', ch. 23, no. 108); a white marble object of uncertain purpose ('Stone Objects', ch. 25, no. 158, *b*); a volute bracket in the early Gandhāra style adorned with a winged male figure springing from an acanthus base ('Stone Sculptures', ch. 36, no. 11); an iron bowl, spear-head, horse's snaffle-bit and two socketed axes ('Iron Objects', ch. 27, nos. 10, 68, 98, 108, 111); a double-cupped spoon of copper ('Copper and Bronze', ch. 28, no. 317); a bone stilus ('Bone and Ivory', ch. 32, no. 75); and an oval seal of copper ('Seals', ch. 34, no. 18) engraved with a winged Pegasus. A large group of coins found in square 143·53′ contained one punch-marked, twenty-one of Azes and Aśpavarma ('Mounted king and Pallas'), and ninety-one of Gondophares (forty of the 'Mounted king and Zeus to r.' type, and fifty-one of the 'Mounted king and Zeus Nikephoros to l.' type).

Royal palace Block K

We come now to the most important of all the buildings in Sirkap, the size and relatively spacious dimensions of which leave little room for doubt that it was a royal palace (Pls. 31, *b*, 33, 34, *a*, *b*). It occupies a central position almost at the corner where the two chief streets, running north-south and east-west, must have crossed one another, and where there appears to have been an open square. On its western side, which overlooked the Main Street, the palace had a frontage of 352 ft., and from east to west a depth of about 410 ft. The oldest parts of the building are constructed of rough rubble masonry and date from about the beginning of the first century A.D., but there are numerous later repairs and additions, particularly in the women's quarters on the north and north-east, which are later by half a century or more. In rooms and courts of special importance, as, for example, in the Private Hall of Audience (Pl. 31, *b*), the rubble is faced with kañjūr stone, and there were columns of grey sandstone like those still to be seen in the Jaṇḍiāl Temple. In many of the chambers chases sunk in the face of the walls mark the places where wooden beams, to which panelling could be affixed, were originally let into the masonry. In other chambers, the surface of the walls was covered with lime or mud plaster, and finished off with a colour-wash.

Entrances to the palace

Only three entrances to the palace now exist, viz. one from the Main Street on the west and two from Thirteenth Street on the south; but it is more than probable that there was another entrance on the eastern side, where several walls have been destroyed. All the entrances are small. The one from the Main Street, which was probably reserved for the king or for state occasions, led across an open court and down a corridor on its right-hand side to a court which probably fulfilled much the same purpose as the 'Court of Private Audience' in Moslem palaces. This court is paved with irregular blocks of limestone, and on its southern side is a hall, corresponding to the Mughal 'Dīwān-i-Khāṣṣ' (Pl. 31, *b*). The hall, which had a frontage of 27 ft. 10 in. and a depth of 20 ft. 5 in., was raised on a plinth 3 ft. 8 in. high and open in front, its roof being carried on a single row of four pillars, or rather, two pillars and two pilasters. The front of the plinth is faced with squared blocks of kañjūr stone, in which seven vertical chases are cut for the reception of timbers to which panelling could be affixed. For the coping of the plinth in front, heavy limestone slabs were used, the four which served as bases for the pillars being about twice as thick as the rest. The fact that no trace is now left of the pillars themselves or of the entablature above them, suggests that these may have been of wood rather than of stone.

Court of Private Audience

The chambers which surround this 'Court of Private Audience' were the best built and most spacious in the palace, and may be presumed to have been used by the king on state occasions (Pl. 34, *a*). One of them, on the east side, which has a superficial area of about 850 ft., possibly served as a banquet hall. Another, at the south-west corner of the court, with a small tank in the middle and a channel to carry off water, was a bathroom. This and the chambers adjoining may be presumed to have served as a lavatory and tiring room for those attending the royal audience.

Court of the Guard

To the south of this court was the 'Court of the Guard'—a quite small court with chambers on two sides, which was reached by way of one of the entrances from Thirteenth Street, some nine paces from the south-west corner of the palace. This in all probability was the entrance ordinarily used by visitors to this part of the palace, who would have to pass along a corridor and through the court of the guard before they could reach the inner precincts. From the court of the guard such visitors could proceed by one of two doorways—both on the side of the court opposite to that by which they had entered—one doorway to the left leading by way of two corridors to the Court of Private Audience; the other to the right leading to the banquet hall (?) or beyond it, up a flight of stairs, to the upper story.

Turret (?) at south-west corner

From the plan of the palace on Pl. 33, it will be noticed that three small chambers at its south-west corner are provided with unusually thick walls and that one of these chambers (in the extreme corner) is devoid of any entrance on the ground-floor. The exceptional strength of the walls at this point suggests that there was probably a turret or *chattrī* of some sort rising above the roof at the corner of the palace, access to which would be gained from one of the upper floors. As to the ground-floor chamber, which could only have been entered by a trap-door from

above, it may be noted that in the later Buddhist monasteries at Taxila such doorless chambers were used as strong-rooms for the keeping of valuables, but whether that was the purpose here there is no evidence to show.

The group of courts and rooms described above form a rectangle measuring approximately 165 ft. from north to south by 135 ft. from east to west. Adjoining this rectangle on its eastern side is a second rectangle of the same width but about 30 ft. less from east to west, which is divided by a wall into two almost equal halves. The southern half is occupied by a large open court with a hall flanked by two small chambers on its southern side and four other chambers on its western side. This I take to have been the Court and Hall of Public Audience analogous to the Dīwān-i-'Āmm in Moslem palaces, where public darbars would be held and business of state transacted, the rooms on the west of the court serving as offices. This public court was reached by an entrance higher up Thirteenth Street (square 183·43′), which also communicated with a complex of large, well-built rooms (which may also have served as offices) on the east side of the rectangle I am describing. A second doorway on the north side of the Court of Public Audience gave access to several small, self-contained groups of rooms, which occupied the northern half of this rectangle and which could only be reached through this one doorway. This fact, coupled with the character of the groups themselves, suggests that they may have been reserved for state-guests, who would naturally be isolated from the rest of the palace.

Court of Public Audience

In the north-west area of the palace were the women's quarters, screened from the Main Street by a line of shops somewhat more commodious than those farther down the street. As usual, they comprise an open courtyard encompassed by rooms, with an open hall (of which the raised plinth only has survived) on the south side of the court. The court itself and the rooms on its west and south sides are set out on fairly true lines parallel or at right angles to the Main Street. The rooms on the east side, however, follow the alignment of Twelfth Street, which is not at right angles to the Main Street, with the result that the planning in this part of the building is all slightly askew.

Women's quarters

The above remark also applies to a smaller court and group of attached rooms immediately to the east of the women's quarters, which seems to have been in the nature of a private chapel, since there was a small stūpa-shrine erected here (Pl. 34, *b*). Of the stūpa itself nothing was left except its square plinth; the relic chamber at its centre, however, was still intact, and in it was a *pyxis*-like casket of grey schist (Pl. 36, *h*) containing a minute relic bone wrapped in a thin covering of gold.[1] What was much more interesting from an archaeological point of view was the discovery alongside its base of a row of four 'ritual tanks', which were still on the spots where they had been dedicated (Pl. 34, *b*, *e*). The character and significance of these tanks is fully discussed in chapter 24, pp. 462–8, and it is unnecessary to go over the same ground here. A number of these ritual tanks have been

Private chapel

Ritual tanks

[1] Another empty relic casket found in the debris of this court (sq. 158·51′) is figured on Pl. 36, *i*. It is of grey schist, 2·37 in. high. Reg. no. Sk. '14–387.

found both in the Bhir Mound city and in Sirkap,[1] but none on any of the sites which are known to have been Buddhist. I incline, therefore, to infer that this particular stūpa was Jaina rather than Buddhist, and that it may have been erected in the palace precincts by one of the queens or some other member of the royal family who had adopted the Jaina faith. We know that at this period Jainism was firmly established at Mathurā[2] and that there were close connexions between the rulers of that place and of Taxila. Nothing is more likely, then, than that the royal family of Taxila would count among its members some followers of the Jaina faith.

Self-contained residence in palace precincts (?)

Beyond the stūpa-court to the east is a medley of small misshapen rooms belonging to the latest period of occupation (stratum I), and beyond these again (squares 156–161·30′–38′) a well-built, self-contained residence of the kind that we have already noticed in several of the other blocks and that was almost certainly constructed under the Parthian regime. It measures 70 ft. east and west by 55 ft. north and south, and contains a single court with eight or nine rooms, and a lean-to against its eastern wall. The outer rooms on the east and south sides were, no doubt, lit by windows in the outer wall; the inner rooms, as usual, from the courtyard. This small residence appears to have been comprised within the limits of the palace, but the boundary of the latter at its eastern end has not been determined, and it may be, therefore, that it was actually outside. Unfortunately the remains at this point are very fragmentary and it will never be possible to recover their plan in its entirety.

Minor antiquities

The self-contained residence described above yielded no antiquities of note, but from the complex of structures between it and the stūpa-court came two finds that deserve mention. One of these was a group of sixty coins containing one of Azes I ('King seated and Hermes'), twenty-five of Azes II ('Mounted king and Zeus standing'), three of Azes II and Aśpavarma ('Mounted king and Pallas'), eight of Gondophares ('Mounted king and Zeus Nikephoros'), and twenty-three of Kadphises I (twenty-two 'Bust of Hermaeus and Heracles', and one 'Bull and camel'). This deposit was unearthed in square 161·45′ at a depth of 1 ft. 6 in. below the surface. The other find, which was made in square 157·43′ at a depth of 4 ft. below the surface, was a small terra-cotta vase (height 3·37 in.) containing a small collection of gold and silver jewellery and lumps of the precious metals taken out of the crucibles in which they had been melted. The collection comprised the following pieces (Sk. '28-2,679):

1. Gold pendant of the 'Flower-and-pendant' type ('Jewellery', ch. 30, no. 29).
2. Pair of gold 'leech' ear-rings (*ibid.* nos. 44–5).
3. Gold necklace of forty-four spherical beads (*ibid.* no. 65).
4. Gold necklace or girdle containing 116 lily-pattern pieces (*ibid.* no. 77).
5. Plain gold finger-ring with oval setting ('Finger-rings', ch. 31, no. 8).
6. Gold finger-ring consisting of narrow band surmounted by row of five diamond-shaped cloisons alternating with rosettes, the former inlaid with white orthoclase felspar (*ibid.* no. 10).

[1] For two ritual tanks from Block A, see p. 145.

[2] See, for instance, the Amohinī tablet and inscription set up in the reign of Śoḍāsa (*Ep. Ind.* II, p. 199; Smith, *Jain Stūpa of Mathurā*, p. 21 and Pl. XIV).

7. Finger-ring of silver wire, with diamond-shaped bezel (cf. *A.S.R.* (1928–9), Pl. XXI, no. 5).
8. One hemispherical lump of gold cast in crucible, weighing 2,192 grains ('Jewellery', ch. 30, no. 216).
9. Two hemispherical lumps of silver, weighing 1,110 and 1,724·5 grains respectively (*ibid.* nos. 217, 219).
10. Oval-shaped piece of gold, weighing 91 grains (*ibid.* no. 218).

No trace of *tahkhānas* in palace

In the case of many of the private houses in Sirkap the lower floors were converted, after the great earthquake, into *tahkhānas* or half-subterranean cellars. There is no evidence to show that this course was adopted in any part of the palace buildings, all of which have both their inner and outer doorways (or such of them as have been preserved) at the normal ground-level, which was lower on the west side of the palace, somewhat higher as the ground rose towards the east. That there was at least one upper story may be deduced from the thickness of most of the walls, but it would be unsafe to conclude that there was more than one. As already stated, the masonry is for the most part of coursed rubble faced in places with squared kañjūr, and it might reasonably be inferred from this that the palace was erected at some time prior to the introduction of the more stable diaper masonry, i.e. in the early part of the first century A.D. On the other hand, the very methodical planning and relatively accurate alignment of the southern half of the palace point to its having been erected in the early Parthian period, and I think there can be little room for doubt that this part, at least, if not the whole of it, was in fact reconstructed along with so many other buildings in Sirkap, after the great earthquake. That the new kind of diaper masonry was not utilised in the palace, as it was in many other residences in Sirkap, presents, of course, a difficulty in the way of accepting this date, but it may have happened either that the palace was rebuilt immediately after the earthquake and before the new masonry had been introduced, or that the old type of coursed rubble was deemed sufficiently secure for walls as thick as those in the greater part of the palace, particularly if, as was the case, the soft kañjūr stone was freely employed in their construction. Though the new diaper masonry was widely adopted after the earthquake, the local masons would naturally prefer to adhere, wherever practicable, to their traditional coursed rubble, and the latter type of masonry, as a fact, is found in a far larger proportion of the restored buildings than the former.

Date of original building and reconstruction

Modest character of architecture

From the foregoing description it will be clear that, although this palace is considerably larger and built more substantially than the private houses in Sirkap, there was nothing at all grandiose in its proportions, or, so far as one can discover, in its adornment. This was a feature of the Parthian palace specially commented on by Philostratus, who says that Apollonius and his companion observed no great display of buildings, and that the men's quarters, the porticoes and the court were all of a modest, subdued character.[1] These remarks of Philostratus afford further evidence of the substantial correctness of his account of Taxila, which, as I have

[1] *Vit. Apoll.* II, 25. περὶ δὲ τὰ βασίλεια οὔτε ὄγκον ἰδεῖν φασιν οἰκοδομημάτων... καὶ γὰρ τοὺς ἀνδρῶνας καὶ τὰς στοὰς καὶ τὴν αὐλὴν πᾶσαν κεκολάσθαι φασίν.

already noticed, finds remarkable corroboration in the unusual character of the private houses rebuilt after the earthquake.

Comparison with Assyrian palaces

In spite, however, of the palace being so unassuming in appearance, its remains are singularly interesting, if only by reason of the plan they disclose—the first plan of a building of this kind yet recovered in India; and this interest is increased when it is seen that this palace not only bears a striking resemblance to the Parthian palaces at Assur, Dura and Nippur and to early Sasanian palaces like that at Kish, but that its plan can be traced as far back as the ancient Assyrian palaces of Mesopotamia. If, for example, we compare it with the palace of Sargon at Khorsabad, as illustrated in Perrot and Chipiez, *Histoire de l'Art antique*, tome II, Pl. V, we cannot fail to be struck by the similarity of their plans, notwithstanding that the Assyrian palace is on an altogether vaster scale. Thus, in the palace of Sargon, there is the same great court surrounded by chambers and, on one side of it, the same court for retainers; on the other, the apartments of the zenana. There, also, the other half of the palace is occupied, just as it is at Taxila, by reception and public rooms. The zigurrat tower, which in the palace of Sargon was placed at the side of the zenana, is a feature which is peculiarly characteristic of the Assyrian religion. In the Taxila palace its place is taken by the modest stūpa-court referred to above.

That a palace at Taxila dating from the first century A.D. should have been laid out on substantially the same lines as an Assyrian palace of Mesopotamia need occasion no surprise when we remember the vitality and persistency of the influence which Assyria exerted on Persia, Bactria and the neighbouring countries, and that the Parthians directly inherited the ancient culture of all these countries. Even if the palaces of Assyria were already buried in ruins when the Arsacids rose to power, there is every likelihood that their plans had been copied and had become part of the architectural tradition of Mesopotamia. There is no reason, however, to suppose that this was the case. It is far more probable that one or other of these magnificent structures was still standing above ground, albeit in a half-ruined state, and was sufficiently well preserved to stir the imagination of the Parthian architects.

Further minor antiquities from palace

The small antiquities recovered in the Taxila palace are of the same character as those from the private houses in Sirkap, consisting of jewellery, bronze, copper and iron objects, beads, gems and coins. A group of coins and another of gold and silver jewellery have already been noticed. Other objects of interest are the following:

Pottery. Ch. 23, no. 213 (roof gargoyle); no. 223 (lid of urn of local red-and-black ware); no. 268 (stamp with floral design).

Terra-cottas. Ch. 24, no. 8 (archaistic female figurine, probably from a ritual tank); no. 113 (rattle in the form of a ram).

Stone. Ch. 25, no. 99 (spherical casket).

Iron. Ch. 27, nos. 41 and 44 (bells); no. 48 (key); no. 91 (plate armour, probably for horseman); no. 97 (snaffle-bit); no. 116 (carpenter's adze); no. 125 (knife); no. 133 (tweezers); nos. 137 and 139 (hammers); no. 216 (shuttle ?).

Copper and Bronze. Ch. 28, nos. 223 and 225 (ear-cleaners); no. 312 (spoon); no. 421 (female statuette).

Bone and Ivory. Ch. 32, no. 51 (mirror handle); no. 107 (arrow-head); no. 117 (cheek-bar for horse's bridle).

Shell. Ch. 33, no. 30 (bangle); no. 44 (roundel).

Finger-rings. Ch. 31, no. 42 (bronze finger-ring with swastika engraved on bezel); no. 53 (copper ring with square bezel engraved with humped bull and inscr. = *Yavalatrasa*); no. 67 (piece of glass finger-ring).

Seals. Ch. 34, no. 28 (bronze seal engraved with figure of Poseidon and inscr. = *Baḍusa Viśpamitrasa* = 'Of the young Brāhman Viśvamitra').

In the open space towards the east side of the palace, where the ruins of the palace itself had been entirely destroyed, a broad L-shaped trench was sunk to a depth of between 9 and 10 ft. below the surface and various walls of the third and fourth strata (early Śaka) were brought to light, but no attempt has yet been made to follow them up or recover the plan of the structures to which they belong. Among the minor objects found in the course of this digging were a terra-cotta mask with a waved fillet across the forehead[1] and a male figurine of the same material wearing a *himation* over his *chitōn* and obviously in imitation of a Hellenistic original ('Terra-cottas', ch. 24, no. 31). The coins from this trench included two rare coins of Philoxenus and Maues (R.U.C. ch. 39, nos. 106, 124).

Block L

The buildings of the second stratum in Block L (the next block to the palace on its southern side and separated from it only by the narrow Thirteenth Street) are in a sadly dilapidated state, but enough of them has survived to show that they were contemporary with, and planned on the same regular lines as, the palace itself; and it is reasonable to infer that they formed some sort of adjunct to the royal structure. A find of some interest which was made in one of the chambers adjacent to the Main Street (square 189·71′) consisted of a number of moulds used for casting coins.[2] The moulds are in the shape of flat circular tablets of terra-cotta about 4 in. in diameter, with the impress of from six to twelve coins in each. Some of the coins represented were issues of the Śaka king Maues exhibiting a caduceus and Greek legend on the reverse;[3] others were issues of Azilises with Azes II, showing the king on horseback on the obverse, or Zeus Nikephoros on the reverse;[4] others were of Azes II, showing the king on horseback or Pallas standing with spear and shield.[5] The moulds themselves probably date from about the year A.D. 60, when the Kushān invasion resulted in the general destruction of the Sirkap city; in any case they must have been made long after the kings whose coins are figured on them had ceased to rule. It is natural, therefore, to suppose that the

Coin moulds

[1] Height 6·5 in.; Sk. '28–2,628; sq. 168·36′; 9 ft. 1 in. below surface. Cf. *A.S.R.* (1928–9), p. 60, no. 82.

[2] See 'Terra-cottas', ch. 24, nos. 149–52 and Pl. 136, *m–r*; *A.S.R.* (1912–13), pp. 34, 35, and Pl. XXX, *f*.

[3] Cf. *B.M. Cat.* Pl. XVI, 1 and *I.M. Cat.* Pl. VIII, 1. On the obverse was an elephant's head in bead-and-reel border.

[4] For the type, cf. *B.M. Cat.* Pl. XX, 3, and p. 92, where, however, the coins are ascribed to Azes I and Azilises instead of to Azilises and Azes II.

[5] Cf. *ibid.* Pl. XX, 2, and pp. 91, 92.

moulds were part of the outfit used by forgers of that period who would find it safer to copy these older issues of the Śaka rulers, which, as I have already shown, were still in circulation throughout the Parthian period, rather than to forge the then current coins of the realm. It is not unlikely that some of the debased silver coins of the later Śaka kings may be due to these forgers.

Group of implements and other articles

Close by this collection of coin moulds there also came to light a number of implements, of which some might well have been used by coin forgers, though others seem more suitable for stone-masons. They comprise:

One single-headed hammer of copper and six double-headed hammers of the same metal ('Copper and Bronze', ch. 28, nos. 373, 374); two copper rings, diameter 1 in.; one flat-headed hammer and one small adze-hammer of iron ('Iron Objects', ch. 27, nos. 138, 140); three bare metal chisels of iron, two pointed and one with straight cutting-edge; two small beak-irons of the solid-bar type with splayed top (similar to no. 147); three small single-headed socketed picks (*ibid.* nos. 141, *a–c*); one pair of iron pliers (*ibid.* no. 132); one iron saucer, diameter 4 in.; one crowbar and one jumper (*ibid.* nos. 215, 214). Along with the coin-moulds there were also unearthed an oval pendant of carnelian in the form of an elephant (diameter 0·5 in.), and a terra-cotta seal inscribed with the words in Kharoshṭhī: *Atavihare Mudrasatasa* = '(Seal) of Mudrasata in his own *vihāra*' ('Seals', ch. 34, no. 36).

Chapter 6. SIRKAP *(continued)*

IN THE foregoing chapter we completed our survey of the late Śaka and Parthian remains on the east side of the Main Street; we now turn to those on the west side. These cover a considerably smaller area. In the plot of ground opposite to the royal palace part of what was evidently another palace building (K′) was brought to light between squares 151–171 N. and 92′–114′ E. The complex of courts and rooms so far disclosed extends about 200 ft. from north to south by 250 from east to west, and consists of little more than two rectangular courts with a number of rooms ranged about them and two small groups of later tenements on their east side. It is clear, however, that the courts, which are as spacious and substantially built as those in the royal palace itself, must have belonged to a hardly less important structure, the full extent of which can no doubt be revealed by further digging.

Palace building K′

The larger of the courts, which lies to the north, measures 40 ft. 9 in. from north to south by 60 ft. 2 in. from east to west. A noteworthy feature in it is a series of three square piers built against the eastern wall with intervals between them of approximately 4 ft. 9 in. Four other piers of the same kind, but much smaller, occur in one of the chambers to the west of the court. What purpose these piers served is a matter for conjecture, but I incline to think that they were intended for the timbers of the roof in the one case, and of a projecting balcony in the other, and that they were probably inserted when the superstructure was showing signs of decay.

Wall masonry

In this building, as in the royal palace, the rubble walls are largely constructed of kañjūr stone mixed indiscriminately with limestone, but in this case it is noticeable that the blocks and interstitial stones of kañjūr predominate considerably over the limestone ones. From this and other considerations I conclude that it was probably somewhat later in date than the reconstruction of the palace.

Plaster

In some of the chambers, the ancient stucco was still adhering in patches to the face of the walls, with traces here and there of red and black paint. The stucco is composed of coarse river *bajrī* and lime, and a curious feature, which I have not observed in any other building, is that in some cases it was applied, not on the facing of the rubble wall itself (which by reason of its roughness affords excellent ground for the plaster) but on a thick coat of mud, which may have been used for economy's sake to level up the inequalities in the walls before the lime plaster was applied. Probably the same method of application was adopted in other structures also—which would explain why so much of the stucco has fallen from the walls. In all cases where the stucco is well preserved, as, for instance, at Jauliāñ and Mohṛā Morādu, it was applied directly to the surface of the stone without any intervening coat of mud.

Minor objects from K'

The minor antiquities from this plot were few and not of particular interest. Included among them were the following:

Pottery. Ch. 23, no. 128 (water-condenser); no. 233 (bowl of incised ware).

Terra-cottas. Ch. 24, no. 30 (standing male figure in Greek dress); no. 127 (bull-capital of miniature Persepolitan pillar); no. 160 (ritual tank with shrine on the floor of the tank and idol inside it).

Stone. Ch. 25, no. 93 (toilet-tray divided into four compartments by curved cross).

Iron. Ch. 27, no. 53 (lock-plate); no. 93 (shield-boss); no. 180 (chain).

Copper and Bronze. Ch. 28, no. 211, *c* (bronze mirror); no. 222 (antimony-rod and toothpick in one); no. 356 (copper key); no. 381 (loop-handle of copper).

Bone and Ivory. Ch. 32, no. 2 (bangle of ivory); no. 39 (bone ear-scoop and toothpick combined); no. 74 (bone writing-stilus).

The remaining blocks of buildings on the west side of the Main Street consist for the most part of private houses with the usual shops in front, of the same general character as those on the east side of the street. Block H' has been only partially cleared and need not detain us.

Block G'

In Block G' the house immediately at the back of the shops appears to contain six courts. Two of these, which are evidently the principal living courts, are on the west side of the house and extend across its whole width between Eighth and Ninth Streets. These cover an area of some 145 ft. north to south by 80 ft. east to west. Then there is an open court measuring about 30 × 60 ft. at the north-east corner of the house, with an entrance from Eighth Street, and leading off from it on the south two smaller courts which would presumably be occupied by the domestics. To the south of these again (i.e. at the south-east corner of the house) was a group of yards and small buildings of very irregular shape and with cobble-stone pavements, which we may suppose to have served as stables.

The substructure of the house, which is almost all that has survived, is of ordinary rubble masonry, but from the remains of the oblong room in squares 105–106·87' it is evident that, in part at any rate, the superstructure was of diaper masonry built after the great earthquake.

Groups of jewellery, etc. from G'

Several small finds of value were made in this house. One of these (Sk. '29–2,193) came from beneath the floor of a room in square 108·87' and comprised the following pieces of jewellery:

1. Gold ear-pendant of the leech-and-pendant type, provided with double-leech clasp and enriched with clustered drops and granulation ('Jewellery', ch. 30, no. 25).
2. Pair of gold bracelets with square 'gate' clasps encrusted with gems (*ibid.* nos. 140–1).
3. Hollow gold torque (*hansuli*) hinged at back and with trumpet ends in front (*ibid.* no. 145).
4. Gold hoop finger-ring with oval box setting ('Finger-rings', ch. 31, no. 6).
5. A pair of hollow silver anklets in a very fragmentary condition, diameter about 6 in. Cf. 'Jewellery', ch. 30, nos. 152–65.

Under the floor of a room on the north side of the house (square 101·86') were a pair of fine silver dishes of the Greek *phiale mesomphalos* pattern, weighing 94½ tolas each ('Silverware', ch. 29, nos. 10, *b*, *c*), and along with them a coin of Zeionises of the type 'King on horseback and city-goddess crowning king'

(R.U.C. ch. 39, no. 200). Then, in a room of one of the smaller courts (squares 106–107·78′–79′), there was found a lead coin of Strato I ('Apollo to r. and tripod') and with it the head of an iron instrument—possibly a hammer[1]—and the head of a female figurine of terra-cotta in good Greek style ('Terra-cottas', ch. 24, no. 48).

Besides the above, the Śaka-Parthian ruins in Block G′ also yielded the following: Miscellaneous objects from G′

Terra-cottas. Ch. 24, no. 54 (head and bust of androgynous figure); no. 60 (toy cart); no. 112 (toy rattle in anthropoid form).

Stone. Ch. 25, no. 71 (part of toilet-tray showing in compartments pairs of human figures holding wine-cups); no. 103 (spherical casket adorned with rosettes); no. 106 (lid of vessel decorated with drinking scene).

Jewellery. Ch. 30, no. 89 (bell pendant of gold). Also a small tubular gold ornament,[2] six pieces of a narrow gold necklace,[3] and four hollow spherical beads of gold.[4]

Finger-rings. Ch. 31, no. 51 (bezel engraved with dancing (?) figure holding snake or bow in right hand).

Copper and Bronze. Ch. 28. (*a*) Forefront of a toy cart of copper similar to no. 391 (Pl. 185, *i*).[5] (*b*) Copper bowl with circular base, damaged, diameter 8·62 in.[6] (*c*) Copper cup, diameter 3.12 in.[7] (*d*) Copper jug of same pattern as nos. 263–5 but with plain handle. Height 10 in.[8]

Beads. A small collection of glass beads of various shapes and colours, but chiefly blue and white—all in a very fragile state.[9]

Soundings made in the lower strata beneath this building yielded two toy birds of grey-black clay from the Greek level ('Terra-cottas', ch. 24, nos. 103–104) and a carved toilet-tray of grey schist from the early Śaka level ('Stone Objects', ch. 25, no. 78).

Block F′, between Seventh and Eighth Streets (Pl. 37, *a*), is wider by nearly 50 ft. than any of the other blocks on the west side of the Main Street, having a frontage on to that street of about 195 ft. In plan also it differs from the neighbouring blocks in that it consists mainly of a series of large courts, with only a relatively small area reserved for living-rooms. When I first excavated this block I inferred that it was divided into several moderate-sized houses,[10] but I now have no doubt that, apart from the front line of shops, the remains are those of a single large mansion, the full extent of which towards the west has yet to be revealed. The group of small chambers at the north-west corner of the excavation, which were divided by an alley-way communicating with Seventh Street, would probably be occupied by menials connected with the mansion. Block F′

For the most part the walls—chiefly foundations—are built of the old-fashioned rubble masonry, but in squares 94–97·78′–82′ there are the remains of a small compact residence built, like the other bijou residences already noticed, of the

[1] Sk. '28–1,976. Length 7·6 in. and hexagonal in section.
[2] Length 0·37 in. Sk. '28-1,847; sq. 104·87′.
[3] Width 0·37 in. Sk. '28–1,916; sq. 114·87′. The pieces are tubular and pierced with two transverse holes.
[4] Diameter 0·25 in. From same findspot as preceding.
[5] Length 2·25 in. Sk. '29–2,338; sq. 102·83′.
[6] Sk. '28–1,975; sq. 106·86′.
[7] Sk. '29–2,257; sq. 103·83′.
[8] Sk. '29–2,297; sq. 108·87′. The upper and lower parts are riveted together near the shoulder, as in no. 264, and there is a repair patch of copper sheeting riveted on the bottom. The lid is missing.
[9] Sk. '29–2,262; sq. 103·83′.
[10] Cf. *A.S.R.* (1928–9), p. 56.

characteristic diaper masonry which came into vogue after the great earthquake.[1]

Groups of silver and other objects from Block F′

Buried under the floor of one of the rooms in this small residence (square 96·81′) was a small group of silver articles comprising a long-necked *aryballos* or scent flask ('Silverware', ch. 29, no. 3 = Pl. 187, Pl. 188, no. 3), a broken silver bowl,[2] and a silver anklet in a damaged condition.[2] In the same building was also found a copper spoon with goose-head handle ('Copper and Bronze', ch. 28, no. 314). The only other groups of objects from Block F′ were a small collection of iron implements from square 92·82′, comprising an axe, three adze-heads, nine hammers and two chisels;[3] a collection of knucklebones (ἀστράγαλοι), which were no doubt intended for playing the familiar Greek game ('Bone and Ivory Objects', ch. 32, no. 99); and five hoards of coins.

One of these, from square 88·86′, contained one coin of Vonones with Śpalahores ('Heracles and Pallas'), three of Azes II ('Mounted king and Zeus standing'), one of Gondophares ('Mounted king and Zeus to r.'), 162 of Kujūla Kadphises ('Bust of Hermaeus and Heracles'), and eight of K. Kara Kadphises ('Bull and two-humped camel'). The second, from square 93·80′, contained five of Azes and Aśpavarma ('Mounted king and Pallas') and seventeen of Gondophares (eight 'Mounted king and Zeus to r.' and nine 'Mounted king and Zeus Nikephoros to l.'). The third, from square 93·79′, contained one of Vonones with Śpalahores (same type as above), one of Azes II (same type) and two of Kadphises ('Bust of Hermaeus and Heracles'). The fourth, from square 94·79′, contained two of Gondophares ('Mounted king and Zeus to r.') and seven of Kadphises (same type as above). The fifth, from square 93·78′, contained four of Azes II (same type as above), eleven of Azes II and Aśpavarma (same type as above), and sixty-one of Gondophares (thirty-four 'Mounted king and Zeus to r.'; twenty-seven 'Mounted king and Zeus Nikephoros to l.').

Other miscellaneous objects from Block F′

Besides these small groups, however, there were various articles found independently in Block F′ that deserve particular notice. One of these was a mass of armour plates, eighteen in number, which, to judge by their size and weight, must have been carried by horses or elephants rather than by men ('Iron Objects', ch. 27, no. 90). Another was a copper bracelet with a medallion of Dionysus or Silenus attached ('Copper and Bronze', ch. 28, no. 18 = Pl. 181, *a*). A third was an exceptionally fine specimen of a toilet-tray exhibiting an elaborate drinking scene—the finest of its kind that is known to us ('Stone Objects', ch. 25, no. 65 = Pl. 144, no. 65). A fourth was a copper seal bearing an inscription in both Karoshṭhī and Brāhmī, *Sihasa madrina putasa Virabahusa* ('Seals', ch. 34, no. 27 = Pl. 208, no. 57).

Other small antiquities recovered from the ruins of this block were:

Pottery. Ch. 23, no. 149 (bath-shaped inkpot); no. 169 (flesh-rubber); no. 193 (funnel-shaped cover); no. 232 (*loṭā* with incised scroll decoration). To which must be added also the bowl figured in *A.S.R.* (1914–15), Pl. XXI, no. 39.

Stone. Ch. 25, nos. 64, 68, 88 (carved toilet-trays) and part of another toilet-tray decorated with a hippocamp surrounded by ten pairs of human busts in frames;[4] no. 124 (spindle-whorl of rock crystal); no. 158, *a* (curiously shaped object of white marble figured in Pl. 142, *jj*).

[1] For similar bijou dwellings erected after the great earthquake in Blocks B, E, etc., see above pp. 145, 147, 157.

[2] Cf. *A.S.R.* (1929–30), p. 66, nos. 69, 70. Not included in the catalogues of silverware or jewellery.

[3] Sk. '28–2,404. Cf. *ibid.* (1928–9), p. 57, no. 62.

[4] Sk. '29–2,223. Cf. *ibid.* (1929–30), p. 66, no. 72.

Iron. Ch. 27, no. 5 (tripod stand for cooking vessel); nos. 60, 61 (double-edged daggers); no. 162 (ornamental door-boss); no. 201 (two-pronged weeding fork). Besides these, there were also the cheek-piece of a horse's bridle, two chisels, two adzes, a short hoe, a plate, disk and hook.[1]

Copper and Bronze. Ch. 28, no. 14 (beaded wrist-bangle); no. 29 (buckle with movable spike); no. 211 (mirror); no. 274 (vase); no. 315 (spoon). Also a pair of crescent-shaped ear-rings;[2] another copper spoon with rat-tail handle;[3] a vine leaf of copper;[4] inkpot with serpentine handle;[5] and a standard cup of copper on square base.[6]

Bone and Ivory. Ch. 32, no. 45 (carved mirror-handle); no. 115 (cheek-piece for horse's bridle, of horn). Also two other carved mirror-handles of bone,[7] and a playing-die and bangle of ivory.[8]

Finger-rings. Ch. 31, no. 49 (copper ring bezel engraved with figure of standing Śiva (?)).

Three objects from the early Śaka stratum which some deep digging in this block brought to light were: an earthenware inkpot ('Pottery', ch. 23, no. 142); a saucer of grey schist, turned on the lathe ('Stone Objects', ch. 25, no. 44); and a bone mirror-handle ('Bone and Ivory', ch. 32, no. 43).

Block E′ Stūpa-shrine

The most noteworthy feature of Block E′ is the high plinth of a stūpa-shrine at its south-eastern corner fronting on to the Main Street, access to which is provided by two double flights of steps on one side from the Main Street, on another from Seventh Street (Pl. 37, *c*). The plinth of the stūpa proper measures 40 ft. north and south by 36 ft. east and west, but nearly 50 ft. east and west, if we include what was evidently a small oblong court belonging to it on its western side. The plinth is constructed partly of rubble, partly of diaper masonry, protected on the outside by a thick coating of lime stucco, and the core is strengthened internally by thick foundation walls arranged both cross-wise and diagonally, as shown in the plan, the interspaces between them being filled with stone debris. This somewhat unusual plan for the foundation walls was designed, no doubt, to provide for the weight of a circular stūpa drum, the outer edge of which would be supported by the four diagonal walls.[9] A pit sunk in the centre of the plinth revealed a small square relic chamber at a depth of some 7 ft. below the top, but unfortunately the chamber had been rifled of its contents. The small oblong court above alluded to, on the west of the stūpa, has a flooring of concrete composed of broken stone and lime.

Plan of houses

The house to which this stūpa was attached (Pl. 37, *b*) occupied the whole width of the block between Sixth and Seventh Streets, and probably extended as far west as square 95′, i.e. for a distance of 210 ft. from the Main Street, but the line of demarcation between this and the next house on the west is not altogether clear.[10] As to the interior lay-out, it is enough to remark that there were no large courts such as are

[1] These are described in detail in *A.S.R.* (1914–15), p. 21 and illustrated in Pls. XXV and XXVI of the same Report.

[2] *Ibid.* (1914–15), Pl. XXIV, 36, 42.

[3] *Ibid.* (1928–9), p. 56, no. 48.

[4] *Ibid.* no. 50.

[5] *Ibid.* no. 51.

[6] *Ibid.* p. 57, no. 65.

[7] *Ibid.* (1914–15), p. 22, no. 3; *ibid.* (1928–9), p. 57, no. 63.

[8] *Ibid.* p. 22, nos. 1, 2.

[9] The drum would thus have had a diameter of between 20 and 25 ft.

[10] The view previously taken by me (*A.S.R.* (1928–9), p. 54) that the remains exposed in this block comprised six small houses, besides portions of three others, must, in the light of subsequent evidence from other parts of the site, now be given up.

found in the neighbouring Block F′ as well as in the majority of the houses of this period in Sirkap, and that the house was made up of a number of relatively small courts and chambers thrown together without any real attempt at systematic planning. The walls are mainly of coursed rubble, but in part also of diaper masonry. No remains have survived of any bijou residence of the kind that we have noticed in several other blocks.

Groups of vessels, etc from Block E′

Though little interest, however, attaches to the structural remains in this block, the minor antiquities it has yielded are many and various, and include several interesting groups. Chief among the latter is a group of copper and bronze utensils (Sk. '22–645) found in square 67·113′ and comprising:

A standard cup of hammered copper ('Copper and Bronze', ch. 28, no. 267); a standard flared beaker ditto (*ibid.* no. 272); five bowls ditto, two with cordon mouldings at base of neck (*ibid.* nos. 278, *a–c*, and 287, *a*, *b*); two shallow bowls of the Greek *mesomphalos* pattern (*ibid.* nos. 281, 282); a shallow dish with concave bottom (*ibid.* no. 290); a flat saucer with splayed sides (*ibid.* no. 296); two-handled basin (*ibid.* no. 303); two ladles with vertical handles (*ibid.* no. 308, *a*, *b*); and a copper spatula (*ibid.* no. 362). Another group (Sk. '27–177) found at the bottom of a store-jar in square 77·91′ comprised a copper inkpot of carinated bowl shape with serpentine handle (*ibid.* no. 335); a copper spatula (*ibid.* no. 365); two ladles and a number of fractured bowls, etc., of which many better preserved examples have been found. A photo of these, as they lay in the bottom of the broken store-jar, is reproduced in Pl. 35, *a*.

In a third group (Sk. '16–161; sq. 68·76′) was an iron spoon ('Iron Objects', ch. 27, no. 20) and a finger-ring of yellow glass ('Finger-rings', ch. 31, no. 68). In a fourth (Sk. '27–82; sq. 75·93′) the bracket figure of chloritised schist characteristic of the Early Gandhāra School, which is figured in Pl. 212, no. 8, and the highly interesting relief figured in Pl. 222, no. 135, which depicts a line of five anchorites watching another young anchorite as he is borne along, head downwards, on a pole carried on the shoulders of two companions. These two Buddhist sculptures may be assumed to have come from the shrine belonging to the house in which they were found.

Miscellaneous objects from Block E′

Other small objects of note from Block E′ are as follows:

Pottery. Ch. 23, nos. 20, 21 (oil-flasks); no. 86 (flared beaker); no. 126 (ceremonial bowl); no. 140 (tortoise-shaped lamp); no. 152 (double beaker); no. 154 (*pyxis*-like casket); no. 160 (portable furnace); no. 207 (vessel-stand); nos. 258, 260 (ornamental stamps). To which should be added an earthenware cup with a linear pattern in black on its rim,[1] and an earthenware inkpot.[2]

Terra-cottas. Ch. 24, no. 6 (votive relief with standing female figure); no. 107 (crude figure of monkey).

Stone Objects. Ch. 25, no. 7 (wheel socket); no. 25 (muller of grey quartzose); no. 52 (*loṭā*-like vase of hornblende schist); nos. 73, 75, 76, 94 (carved toilet-trays, one (no. 76) bearing the name of the owner, Maṁjumina, in Kharoshṭhī); no. 105 (casket of grey schist); no. 121 (touchstone). Another vase of schist decorated with three horizontal lines of petals was also found in square 73·100′,[3] and a spherical casket of the same material in square 73·96′.[4] The latter, which

[1] Sk. '28–1,019; sq. 71·98′. *A.S.R.* (1928–9), p. 55, no. 38.
[2] Sk. '28–1,058; sq. 70·102′. *Ibid.* no. 45.
[3] Sk. '28 715. Cf. *ibid.* p. 55, no. 40.
[4] Sk. '28–984. *Ibid.* p. 54, no. 35. Similar to the spherical caskets of type *d*, 'Stone Objects', ch. 25, nos. 103, 104.

is illustratrated in Pl. 36, *g*, was found near the corner of a courtyard, where it had no doubt been purposely buried, in early Kushān times, by its owner. It was covered by the lid of a larger vase and contained (*a*) two copper coins of Kadphises I ('Bust of Hermaeus and Heracles') and one of Azes I ('King seated and Hermes'); (*b*) five fragments of a gold ornament; (*c*) six pieces of gold and gold and silver amalgam; (*d*) four fragments of a silver ornament; and (*e*) three pieces of copper.

Iron. Ch. 27, no. 1 (cooking-pot); no. 17 (baking-pan); no. 33 (candelabrum); no. 57 (sword); no. 106 (socketed axe). Other iron objects from this block were a beak-iron[1] of the type illustrated in Pl. 167, nos. 143–6, and a three-legged support for a cooking-pot.[2]

Copper and Bronze. Ch. 28, no. 253 (casket of heavy cast bronze); no. 260 (ceremonial vessel with spout and loop handle on top); no. 271 (standard flared beaker with carinated shoulder); no. 326 (standard incense-bowl); no. 336 (inkpot with serpentine handle); no. 369 (scale-pan); no. 377 (two pairs of ornamental hinges); no. 387 (part of a copper and ivory flute); no. 408 (copper lotus repoussé); no. 422 (statuette of male figure in the round). Among these objects the fragment of a flute (αὐλός) which is adorned with a Pegasus carved out of ivory and of typical Greek pattern, is particularly interesting (Pl. 177, no. 387), and the statuette in the pure Indian style and of almost medieval aspect is also very remarkable. Other objects of copper from the same block are a bell-shaped cooking-pot[3] made in two parts and riveted together; a copper mirror[4] found with it in square 72·101′; and a bowl,[5] pan[6] and flat spoon[7] of the same metal.

Finger-rings. Ch. 31, no. 39 (bronze with oval bezel); no. 46 (bronze with oval bezel engraved with female figure in loose draperies); no. 68 (of yellow glass); no. 70 (oval intaglio of malachite with figure of winged Nike).

Seals. Ch. 34, no. 13 (scaraboid of black glass engraved with crude representation of winged animal); nos. 19, 21 (square copper seals, the former with humped bull, the latter with swastika and illegible Kharoshṭhī inscription).

Glass. Ch. 35, no. 13 (part of bowl of coloured mosaic glass of Graeco-Roman manufacture).

Coins. Six small groups, viz.: (1) From square 74·87′, five coins of Kadphises I ('Bust of Hermaeus and Heracles'). (2) From square 73·90′, one of Azes II ('Mounted king and Zeus standing'), one of Azes and Aśpavarma ('Mounted king and Pallas'), one of Gondophares ('Mounted king and Zeus Nikephoros'), one of Kadphises I ('Bust of Hermaeus and Heracles'). (3) From square 68·89′, three of Azes II (same type), four of Azes and Aśpavarma (same type), three of Gondophares (two of 'Mounted king and Zeus to r.'; one 'Mounted king and Zeus Nikephoros to l.'). (4) From square 73·97′, five of Azes II (same type) and two of Gondophares ('Mounted king and Zeus Nikephoros'). (5) From square 73·109′, one uncertain ('Bust of king and Kharoshṭhī legend'), one of Azes I ('King seated and Hermes'), fifteen of Kadphises I (fourteen 'Hermaeus bust and Heracles'; one 'Bull and two-humped camel'). (6) From square 73·75′, eight of Azes II (same type as above), and six of Gondophares (two 'Mounted king and Zeus to r.'; four 'Mounted king and Zeus Nikephoros to l.').

It remains to add that soundings made in the early Śaka stratum below the remains described above brought to light a copper key with ringed-handle ('Copper and Bronze', ch. 28, no. 353) and two carved toilet-trays ('Stone Objects', ch. 25, nos. 79, 83), one with two lions in the central compartments, the other with a winged sea-monster.

Block D′ has the distinction of having yielded more valuables than any other block of residences in Sirkap. The remains comprised in it exhibit two types of masonry, some of the walls being of rubble in mud, others of the diaper masonry

Block D′

Two types of masonry

[1] Sk. '28-947; sq. 70·101′.
[2] Cf. *A.S.R.* (1914–15), p. 21, 4; sq. 73·74′.
[3] Sk. '28–725, *c*.
[4] Sk. '28–725, *c*.
[5] Sk. '27 1,028; sq. 76·90′.
[6] Sk. '27–884; sq. 74·85′.
[7] Sk. '28-803; sq. 74·100′.

which was introduced at Taxila towards the middle of the first century A.D. (Pl. 37, *d*). A good illustration of the two types is afforded by the photo in Pl. 35, *b*, which shows a corner of the court in square 61·114′, with the drain running from north-east to south-west, rubble walling on the north side of the court and characteristic diaper on its east side.

Ground plan

As regards the ground plan, the divisions between the houses are tolerably clear. Starting from the east end of the block, the first party wall extends in a straight line across the block between squares 88′ and 89′, and the first house (1 D′), which comprises two fairly large courts and four smaller ones, thus has an area of about 135 ft. east and west (behind the front line of shops) by 110 ft. from north to south between Fifth and Sixth Streets. Parts of the second and third houses (2 D′ and 3 D′) have disappeared on the north side, where they overlook Fifth Street, but the party wall between them evidently lay along the line between squares 102′ and 103′; while the party wall between the third and fourth houses lay in square 114′ (Pl. 38). Thus, the second house had a depth of approximately 140 ft., and the third house a depth of 115 ft. The full extent of the fourth house has not yet been determined.

In these houses seven groups of antiquities were unearthed, including the finest pieces of jewellery yet found at Taxila, viz. two groups in House 2, two in House 3, and three in House 4. Of the two deposits in House 2, one (Sk. '29–1,507) came to light in square 64·92′, about 4 ft. below the surface. It comprised:

Deposit A

1. The superb gold and turquoise pendant of 'amphora' type, illustrated in Pl. 190, *c* ('Jewellery', ch. 30, no. 2).
2. The fine gold necklace of thirty-one pieces inlaid with carbuncles and white orthoclase felspar (*ibid.* no. 57 = Pl. 193, no. 57).
3. A gold necklace of eighty-four pieces (*ibid.* no. 61).
4. A figure of the winged Aphrodite in gold repoussé (*ibid.* no. 96 = Pl. 191, *s*).
5. A pair of heavy gold bracelets with 'gate' clasps, encrusted with amber and orthoclase felspar (*ibid.* nos. 137, 138 = Pl. 196, *a*).

Deposit B

The second deposit in the same house (Sk. '28–1,307; sq. 63·96′) consisted of a small miscellaneous collection of more utilitarian objects, namely:

1. Two copper inkpots with serpentine handles (*A.S.R.* (1928–9), p. 53, nos. 16, 17). Cf. 'Copper and Bronze', ch. 28, nos. 334–9.
2. Copper hair-pin with indented bands (*A.S.R. ibid.* no. 14).
3. Copper spoon (*ibid.* no. 18).
4. Copper basin with ring handle and ring base (*ibid.* no. 19).
5. Iron brazier on wheels. Cf. 'Iron Objects', ch. 27, no. 37 = Pl. 163, *i* (*A.S.R. ibid.* no. 21).
6. Casket of grey schist with lotus and other patterns in low relief round body (*ibid.* no. 15).
7. About 5 lb. of vermilion pigment resembling rouge (*ibid.* no. 20). The analysis of this pigment is as follows:

HgS (vermilion) . . .	85·10 %	Al_2O_3	0·24
SiO_2	2·69	CaO	tr.
Fe_2O_3	12·40	Total	100·43

Thus the pigment consists of red sulphide of mercury or vermilion with oxide of iron to the extent of 12·4%.

The two deposits in the third house were found beneath the floor of the same room (square 62·113'), and although at different depths (C in stratum III; D in stratum IV), were no doubt buried at the same time, i.e. in the second half of the first century A.D. Apart from a few coins, a couple of small silver bells, and three lumps of gold, they consisted exclusively of personal ornaments, chiefly of gold.

The larger of the two deposits (Sk. '29–1,241) contained the following articles: Deposit C

1. Pair of gold ear-rings of 'bar and trefoil' pattern ('Jewellery', ch. 30, nos. 7, 8).
2. Pair of gold pendants of 'leech and pendant' pattern (*ibid.* nos. 11, 12).
3. Three ear-pendants of gold of 'flower and pendant' pattern (*ibid.* nos. 26–8).
4. Pair of small gold ear-rings of 'ring' pattern (*ibid.* nos. 33, 34).
5. Three pairs of small leech-like ear-rings of gold (*ibid.* nos. 36–41).
6. A splendid gold necklace of twenty-three pendants with two terminals and twenty spacer-beads, inlaid with crystal, white orthoclase felspar and black agate (*ibid.* no. 56).
7. Gold necklace of 132 hollow spherical beads (*ibid.* no. 63).
8. Gold breast-chain of 494 pieces in the form of interlocking stepped merlons. The chain is about 11 ft. long (*ibid.* no. 75).
9. Gold necklace or girdle of 130 pieces of 'double-crescent' form (*ibid.* no. 76).
10. Four square amulets of gold with swastika device (*ibid.* nos. 85, *a–d*).
11. Four hollow club-shaped pendants of gold (*ibid.* nos. 92, *a–d*).
12. A globular pendant of gold (*ibid.* no. 93).
13. Gold brooch with repoussé figures of Eros and Psyche (*ibid.* no. 98).
14. Gold hair-pin with 'wheel' head, encrusted with white orthoclase felspar (*ibid.* no. 100).
15. Eleven solid gold bangles (*ibid.* nos. 105–15).
16. Two hollow gold bangles with trumpet ends (*ibid.* nos. 120–1).
17. Pair of gold bracelets with square 'gate' clasps encrusted with gems (*ibid.* nos. 142–3).
18. Four rosettes of gold, three encrusted with paste and one with orthoclase felspar (*ibid.* nos. 170–3).
19. Two rosettes, similar to preceding, but with plain petals (*ibid.* nos. 174, 175).
20. Solid gold finger-ring with plain oval bezel ('Finger-rings', ch. 31, no. 2).
21. Solid gold finger-ring with bezel in form of pair of almond-shaped bosses and figures in relief on outside of hoop (*ibid.* no. 3).
22. Finger-ring of sheet gold with granule beading round bezel, which was inset with crystal and amber (*ibid.* no. 9).
23. Solid gold finger-ring with glass setting engraved with figure of Heracles and illegible Kharoshṭhī inscription (*ibid.* no. 17).
24. Necklace of thirty-three mother-of-pearl beads ('Shell Objects', ch. 33, no. 49).
25. Almond-shaped gold ornament edged with beading and once inlaid with paste (*A.S.R.* (1929–30), Pl. XIX, 6).
26. Shield-shaped bead of gold repoussé (*ibid.* no. 13).
27. Necklace of nineteen gold tubular beads, damaged. Similar to those illustrated in Pl. 192, *f*, 'Jewellery', ch. 30, no. 66 (*A.S.R.* (1929–30), p. 62, no. 35).
28. Three tiny openwork spacer-beads (*ibid.* p. 61, no. 26).
29. Three small lumps of gold, weighing 123 grains (*ibid.* no. 28).
30. Rectangular sheet of gold, 2·375 × 0·5 in., and four other small pieces of gold (*ibid.* no. 29).
31. Bowl-shaped bell of silver without tongue or handle, diameter 1 in.; and a second bell of silver in fragments (*ibid.* no. 32).
32. Two silver hair-pins with square heads and other fragments of silver (*ibid.* no. 36).
33. Bangle of solid silver with cube terminals (*ibid.* no. 37).

34. Copper-gilt ornament in shape of tortoise, encrusted with crystal and turquoise paste (*ibid.* no. 30).

35. Fragment of crescent-shaped piece of crystal (*ibid.* no. 31).

36. Ten beads, of which five are of shell, four of glass and one of chalcedony. One of the glass beads, of reddish brown colour, is in the form of a fish, pierced lengthwise. Four of the shell beads are of 'double-crescent' shape (*ibid.* nos. 38–40).

37. One silver coin of Sapedanes (R.U.C. ch. 39, no. 216) and eleven anonymous (*ibid.* no. 209).

Deposit D

The smaller deposit (Sk. '29–1,362) was in the same room as the above but buried lower beneath the floor. It comprised the following pieces:

1. A heavy torque of solid gold ('Jewellery', ch. 30, no. 144).
2. Single gold 'leech' ear-ring (*ibid.* no. 46).
3. Finger-ring of thin plate gold ('Finger-rings', ch. 31, no. 7).
4. Silver saucer with inscription in Kharoshṭhī: *Aśpavarmasa strategasa sa* 10. 1. *dra* 2. *o.* 2 = 'Of Aśpavarma the *strategos*, 11 staters, 2 drachms, 2 obols' ('Silverware', ch. 29, no. 11).
5. Silver saucer with Kharoshṭhī letter monogram beneath (*A.S.R.* (1929–30), p. 62, no. 47).
6. Pair of silver bangles, damaged and twisted (*ibid.* no. 48).

Deposit E

Of the three deposits from House 4, the richest one (Sk. '19–933) was found in a large earthenware store-jar buried beneath the floor of a room in square 59·114′. The jar was closed with a lid of copper, and the miscellaneous collection of articles, which half filled it, had evidently been tumbled into it in a great hurry. The collection, which seems from its character to have formed the stock-in-trade of some lapidary or jeweller, consisted of the following articles:

1. Seven copper and bronze goblets similar to those illustrated in Pls. 174 and 183, nos. 266–73.
2. Two copper spoons ('Copper and Bronze Objects', ch. 28, no. 310, and *A.S.R.* (1919–20), Pl. VIII, nos. 3, 4).
3. A shallow dish of copper ('Copper and Bronze', no. 291).
4. Two copper mirrors (*ibid.* no. 211, *b*).
5. Two paterae of silver richly adorned with repoussé ornamentation and originally encrusted ('Silver Objects', ch. 29, nos. 14, *a*, *b*).
6. Two bangles of solid gold ('Jewellery', ch. 30, no. 104).
7. Two cylindrical gold amulet cases (*ibid.* nos. 84, *a*, *b*).
8. Three spherical gold pendants (*ibid.* nos. 94, *a–c*).
9. A gold finger-ring inset with carbuncle ('Finger-rings', ch. 31, no. 5).
10. Relief of a man's head in shell ('Shell Objects', ch. 33, no. 42).
11. Flask of sea-green translucent glass and neck of a glass jug, both of Graeco-Roman manufacture ('Glass', ch. 35, nos. 1, 4).
12. Four glass disks, probably for incrustation (*ibid.* no. 18).
13. Two lumps of opaque red glass (*ibid.* nos. 19, *a*, *c*).
14. Ten circular and almond-shaped pieces of highly polished agate, four disks of rock-crystal, and three broken roundels of porcelain-agate of the same kind as those found in the Bhir Mound and in Block A′ of Sirkap (cf. 'Stone Objects', ch. 25, nos. 138 and 139, *a–j*).
15. Mould of schist for gold casting with figure of Siṁha-Vāhinī riding on lion (*ibid.* no. 148).
16. One eye of lapis-lazuli and two *urṇās* of rock-crystal for images (*ibid.* nos. 140, *a–c*).
17. Part of agate casket (*A.S.R.* (1919–20), Pl. X, no. 32).

18. Twenty-five stone weights ('Stone', ch. 25, Class XXVIII).
19. Three pieces of Chinese jade, probably from the Karakash valley in Eastern Turkestān.
20. Eight copper coins, viz. one Archebius (elephant and owl); one Azes I ('Mounted king and Pallas); four Azes II ('Mounted king and Zeus standing'); one Azes II and Aśpavarma ('Mounted king and Pallas'); one Gondophares (ditto).

Deposit F

In a room adjacent to the one containing the jeweller's store-jar described above and on its north side, a hoard of 120 copper coins was unearthed, which, I have little doubt, had been buried on the same occasion as the deposits of jewellery etc. The hoard contained twenty-eight copper coins of Azes II (same type as above), twenty of Azes II and Aśpavarma (same type as above), and seventy-two of Gondophares (thirty-eight 'Mounted king and Zeus Nikephoros to l.' and thirty-four 'Mounted king and Zeus to r.').

Deposit G

Lastly, under the floor of an adjacent room in square 58·116′, immediately to the west of the preceding one, was found a collection of 102 dies and ornamental objects of copper (Sk. '19-790), and with them a very remarkable statuette of the early Gandhāra School. The copper objects ('Copper and Bronze', ch. 28, nos. 102-203 and Pls. 179-81) are unusually interesting by reason of the light they throw on the processes employed by the Taxila jewellers for facilitating the production of their wares. They consist partly of small solid metal dies on which sheet-metal could be hammered and stamped with the help of punches and so fashioned into ornaments; partly of pieces of sheet-copper so hammered on the dies, but before being cut and trimmed into actual ornaments.[1] Almost every kind of motif and device found among these dies—the 'double crescent', 'tangential circlets', 'spearhead-and-drop', 'bud-pendant', 'leech', 'stepped merlon', 'rosette', 'comma', 'dolphins affrontés', etc.—has its counterpart among the gold and silver ornaments found in this and other houses in Sirkap, and there is no doubt that many of the latter were fashioned on such dies as these. The statuette of stone which was found along with these copper objects is made of chloritised mica schist (a particular kind of schist which was specially favoured by the earliest of the Gandhāra sculptors) and represents a half-nude female in the round, holding a lotus in her right hand ('Stone Sculptures', ch. 36, nos. 3, *a* and *b* and Pl. 211), and thus reminding us of the 'Lady of the lotus' depicted on certain autonomous coins of Taxila,[2] who may be either the Tyche of the city or Māyā, the mother of the Buddha.

Coin groups from Block D′

Besides the valuable groups of antiquities set forth above, Block D′ also yielded several small hoards of coins and a variety of other small objects. The coin groups are as follows:

1. From square 58·74′, one Local Taxilan ('Swastika and blank'), one Eucratides ('Bust of king and *pilei* of Dioscuri'), one Hermaeus ('Bust of king and Nike'), one Rājuvula ('Lion and Heracles').

[1] It is possible that these thin copper pieces hammered into shape on the solid dies were intended to be used as moulds for casting cheap ornaments of faience or other suitable materials such as were much in vogue at this period. Cf. 'Copper and Bronze Objects', ch. 28, nos. 37-203.

[2] For references, see 'Stone Sculptures', ch. 36, no. 3.

2. Square 62·96′, one Azes I ('Bull and lion'), four Azes II ('Mounted king and Zeus standing'), one Azes II and Aśpavarma ('Mounted king and Pallas'), two Gondophares ('Mounted king and Zeus r.' and 'Bust of king and Nike'), two Kadphises I ('Hermaeus bust and Heracles'), one Kadaphes ('Buddha seated and Zeus').

3. Square 56·98′, one Azes I ('King seated and Hermes'), two Azes II (as above), one Rājuvula (as above), one Kadphises I (as above).

4. Square 56·101′, three Azes II (as above), five Kadphises I (as above), one Kadaphes ('Claudius(?) head and king seated').

5. Square 64·104′, two uncertain, four Hermaeus ('Bust of king and Nike'), nine Kadaphes ('Buddha seated and Zeus').

6. Square 65·114′, seventeen Azes II (as above), five Azes II and Aśpavarma (as above), fifteen Gondophares (six 'Mounted king and Zeus r.'; nine 'Mounted king and Zeus Nikephoros l.').

7. Square 63·116′, eleven Azes II (as above), one Azes and Aśpavarma (as above), one Gondophares ('Mounted king and Zeus Nikephoros'), five Kadphises I ('Hermaeus bust and Heracles').

Miscellaneous objects from Block D′

Other noteworthy objects were:

Pottery. Ch. 23, no. 23 (bell-shaped flask); no. 44 (water-bottle); nos. 104, 105 (bowls); no. 107 (saucer); no. 109 (*mesomphalos* dish of Greek pattern); no. 119 (covered pan-mug); no. 148 (square-based inkpot with name of the owner, Manavasa); no. 212 (roof gargoyle); no. 249 (amphora of stamped ware); no. 261 (circular stamp).

Stone. Ch. 25, no. 17 (carved stool-quern of Mathurā sandstone); no. 41 (broken dish of hornblende-schist with foliate border in relief); no. 46 (saucer of grey schist); no. 70 (carved toilet-tray); no. 84 (carved toilet-dish);[1] no. 98 (toilet-casket decorated in low relief); nos. 100, 101 (cylindrical and pyxis-shaped caskets of schist); nos. 147, *a*, *b* (limestone mould for ear-pendants, inscribed in Kharoshṭhī: *Gayalasa*); no. 161 (ear-reel of yellow jasper). Besides the foregoing, the stone objects found in Block D′ included a vase of grey schist;[2] two relic caskets in the form of stūpas one containing a clay-sealing with indistinct device, the other (Pl. 36, *j*) empty;[3] and a granite mortar with traces of red pigment inside.[4]

Iron. Ch. 27, nos. 14, 15 (dish and saucer); no. 18 (two baking-pans); nos. 42, *a–y* (twenty-five bells); no. 94 (shield-boss); no. 104 (socketed axe); no. 147 (solid-bar beak-iron); no. 158 (ornamental door-boss); nos. 217, 220 (106 torpedo-shaped ingots of iron). Also a pair of wheels belonging to a movable brazier[5] and a two-edged sword with a copper band between the hilt and blade.[6]

Copper and Bronze. Ch. 28, nos. 10, 11 (ornamental bangles); nos. 211, *b*, *c* (mirrors); no. 224 (ear-cleaner); no. 256 (*gharā*-shaped vessel); no. 258 (bell-shaped cooking-pot); no. 289 (*mesomphalos* dish); no. 300 (frying-pan of Greek pattern); nos. 302, 304 (mixing-pan and two-handled basin, found together); no. 308, *c* (ladle); nos. 310, 313 (spoons); nos. 331, 337 (ink-pots); no. 340 (reed-pen); no. 360, *c* (decapitator ?); no. 392 (wheel of toy cart). Also, another bell-shaped cooking-pot;[7] another *mesomphalos* dish and mirror;[8] another mixing-pan and

[1] This toilet-dish, of whitish schist, decorated with a winged monster in relief, was found inside an earthenware vase in the fourth stratum. *A.S.R.* (1929), p. 65, no. 58.

[2] Sk. '27–1,342; sq. 66·119′. *Ibid.* (1927), p. 64, no. 2.

[3] The latter = Sk. '27–1,653; sq. 63·119′. *Ibid.* Pl. XXI, fig. 7; the former = Sk. '28–1,097; sq. 64·104′.

[4] Sk. '28–1,126; sq. 66·104′. *Ibid.* (1928), p. 54, no. 30.

[5] Sk. '27–1,548; sq. 61·118′. *Ibid.* (1927), p. 63, no. 5.

[6] Sk. '29–1,585; sq. 60·110′. *Ibid.* (1929), p. 66, no. 64.

[7] Sk. '29–1,511; sq. 57·98′. *Ibid.* p. 65, no. 60.

[8] Sk. '29–1,034; sq. 59·112′. *Ibid.* nos. 56, 57.

bowl,[1] another ladle with spatulate handle looped back at end;[2] another copper reed-pen;[3] and a solid ball of copper with four small rings round the body.[4]

Bone and Ivory. Ch. 32, no. 23 (ornamental hair-comb of ivory); no. 40 (ear-cleaner and toothpick); no. 47 (carved mirror handle); no. 101 (part of toy table or bedstead); no. 126 (bone handle or terminal).

Jewellery. Ch. 30, no. 69 (chain); no. 178 (rosette)[5] from stratum IV; nos. 31–2 (ear-rings); no. 147 (torque) from the surface.

Finger-rings. Ch. 31, nos. 12, *a*, *b*. This is a pair of unusually ornate gold finger-rings, their hoops enriched with an elaborate vine scroll, and their bezels pyramidal in shape with settings for three larger gems and nine smaller ones. Also *ibid.* no. 60 (of onyx); and an intaglio of glass from a finger-ring, engraved with the figure of a lion.[6]

Seals. Square seal of copper with blurred engraving on front.[7] Of the same class as 'Seals', ch. 34, Class IV, nos. 19, 24 and 25. Medallion of lead with standing winged figure in beaded border, diameter 0·625 in. Two rings at back for attachment.[8]

Stone Sculptures. Ch. 36, nos. 5, 9. The former is of micaceous slate and represents a standing female in the round holding a box of flowers or other offerings (Pl. 212, no. 5, *a*, *b*). The latter is of chloritised micaceous schist and represents a male figure holding a bird (?) with both hands in front of his breast (Pl. 213, no. 9); it belongs to the early Gandhāra School.

The results of the deep diggings carried out in Block C′ and in the three blocks (B′, A′ and 1′) immediately to the north of it have already been described (pp. 120 ff. *supra*), but it still remains to notice the late Śaka-Pahlava buildings and minor antiquities in these blocks. In Block C′ the front line of shops is very clear and at its south-east corner is a stūpa in a small court approached from the Main Street. All that is left of it is its high plinth constructed of diaper masonry with corners of dressed kañjūr. It is square in plan and quite plain, in this respect presenting a contrast with the square stūpas in Blocks A, F and G. The presence of a number of kañjūr pilasters and other fragments indicates that the plinth was protected by the usual railing. A shaft was sunk in the centre of the stūpa, but did not reveal the existence of a relic chamber. The foundations of the stūpa itself descend to a depth of about 2 ft. 8 in. below the ground-level. Some 4 ft. below them, i.e. at a depth of 7 ft. from the surface, was a wall running east and west, which evidently belonged to a building of the third stratum.

Block C′

Stūpa-shrine

The floor of the small court around the stūpa was paved with well-baked bricks measuring 10×7×2 in. on a foundation of broken kañjūr, clay and lime, with a small admixture of river sand. On the side of the Main Street, the terrace on which this stūpa rested was constructed of two parallel walls with rubble filling between them, like the terrace in front of the apsidal chapel opposite. Ascending this terrace from the Main Street was a double flight of steps, and originally there

[1] Sk. '29–275 and 282; sq. 57·105′. *A.S.R.* (1929), p. 65, nos. 61, 62.
[2] Sk. '27–1,336; sq. 62·117′. *Ibid.* (1927), p. 65, no. 15.
[3] Sk. '27–1,335; sq. 66·49′. *Ibid.* (1927), p. 65, no. 8.
[4] Sk. '28–821; sq. 63·106′. *Ibid.* (1928), p. 54, no. 33.
[5] These two pieces were found in the early Śaka stratum below the floor of the Parthian house, but like nos. 46 and 144 may have been buried during the Parthian period. Cf. p. 134 *supra*.
[6] *A.S.R.* (1914–15), p. 19, no. 4.
[7] Sk. '28–1,274; sq. 65·101′. *Ibid.* (1928), p. 54, no. 25.
[8] Sk. '29–1,137; sq. 58·104′. *Ibid.* (1929), p. 65, no. 59.

were probably a few steps descending to the courtyard on the inside, but later on the latter were replaced by a small ramp of rough stone leading from the top of the terrace to the stūpa base.

House and small habitations of later date

Immediately at the back of the stūpa and of the front line of shops are the remains of a typical well-to-do house of the Śaka-Parthian period, which in all probability extended westward for a distance of about 120 ft. Its plan, however, is by no means clear. It is tolerably well preserved for a distance of some 60 ft., but beyond that the original structure has been largely destroyed and replaced, here and there, by smaller habitations of the kind that are found in the neighbouring blocks to the north and are particularly well illustrated in the case of Block 2A′. Whether these small habitations were erected in place of the larger houses after the great earthquake or at a later date there is at present no tangible evidence, though the latter seems to be the more likely contingency.

Statuette of goddess and miniature relic-stupa from Block C′

A somewhat remarkable find made in the ruins of this block was a miniature relic-stūpa of Gandhāra manufacture, and by the side of it the stone image of a goddess (Sk. '22-860). The two objects, which had evidently been buried together under the floor of a chamber in square 52·85′, are shown, just as they were found, in Pl. 35, *f*, and are illustrated separately in Pl. 35, *g* and Pl. 211, no. 1. The model stūpa of grey schist, 10·2 in. high, is in almost perfect preservation and gives a good idea of the form which many of these monuments were assuming in Gandhāra in the latter half of the first century A.D., though the *harmikā* and umbrellas are of course disproportionately large. Inside it was a small conical clay sealing with an indistinct device, 1·2 in. diam. (Pl. 36, *e*). The image by the side of the model stūpa, which is described in detail in the list of 'Stone Sculptures', ch. 36, no. 1, is of potstone and represents a goddess seated on a throne crowned by a low *polos* and holding a cornucopia in her left hand. The type was a well-known one throughout the Graeco-Roman world and has been variously identified as a city goddess (Tyche), Demeter, Fortuna, Bona Dea, etc. In India it is found on coins of Azes I and II, where it may represent the *yakshī* Hārītī—the consort of Pāñcika, 'Giver of riches'. Whatever the correct identification, the discovery of the image along with the relic-stūpa leaves little room for doubt that we have here a small cult image of a deity who was at this time an object of worship, and we may reasonably infer that both the stūpa and the image came either from the stūpa-shrine at the south-east corner of the block or from a smaller private chapel in the house where they were found. Another model stūpa of the same kind, but without its crowning umbrella, was unearthed in square 45·76′ and found to contain a minute relic bone and a few beads of bone and gold (Pl. 35, *h*).[1] This, too, had evidently been buried for safety's sake and may have come either from a private chapel or from the same stūpa-shrine as the first.

Other minor antiquities from Block C′

Apart from the above, all the minor antiquities from Block C′ were found dispersed among the fallen debris of this ruin, and it is difficult to say whether they were buried intentionally or not. One of the most interesting among them is the

[1] Sk. '14-658; diameter 3·87 in. Of grey schist. Illustrated in *A.S.R.* (1914), Pl. XXVII, 9.

oval seal of copper illustrated in Pl. 208, no. 56 (= 'Seals', ch. 34, no. 26) engraved with a figure of Śiva holding a trident in his left hand and a club in his right, with a *nandipada* in r. field and the name of the owner, Śivarakshita, written in both Kharoshṭhī and Brāhmī. Another noteworthy object is the earthenware water condenser ('Pottery', ch. 23, no. 127), the design and use of which will be readily understood from the diagram on Pl. 125, no. 129, *a*. And a third, the iron spade with two rings on its face which is illustrated in Pl. 169, no. 198. The rings are evidently intended for the attachment of a rope and are particularly interesting, because it is still a common sight in India to see two men shovelling with one spade, one holding the handle and pushing, while the other holds the rope and pulls.

Other minor antiquities recovered from this block include the following:[1]

Pottery. Ch. 23, no. 4 (ovoid store-jar); no. 41 (standard pot); no. 72 (spouted *kuza*); no. 91 (flared beaker with heavy cordons); no. 118 (cattle-trough); no. 127 (water-condenser); no. 130 (standard censer); no. 143 (inkpot); no. 157, *b* (solid rhyton); no. 163 (crucible). Also another flared beaker similar to no. 89.[2]

Stone. Ch. 25, no. 47 (saucer of grey schist with quatrefoil rosette on bottom); no. 49 (standard cup or tazza of schist); no. 56 (squat vase of hornblende schist); no. 77 and 85 (toilet-trays of grey schist, the former with relief of woman riding fish-tailed monster; the latter with winged monster); no. 137 (amulet of black basanite); no. 151 (part of schist mould with various devices for the casting of metal dies).

Iron. Ch. 27, no. 35 (candelabrum); no. 95 (shield boss); no. 96 (snaffle-bit); no. 102 (elephant goad); no. 124 (knife); no. 185 (socketed hoe); no. 218 (ingot). Also a sickle,[3] spearhead,[4] and one square[5] and three circular saucers.[6]

Copper and Bronze. Ch. 28, no. 34 (brooch with winged dragon in acanthus border); no. 219 (antimony-rod and tooth-pick); no. 248 (stopper of antimony-phial); no. 266 (standard cup); no. 346 (bronze bell); no. 360, *a* (decapitator ?); no. 397 (group of three Amorini in relief); no. 419 (emblema of winged Eros on lotus). Also the lid of a casket with spiral device repoussé,[7] and a bell-shaped cooking vessel similar to no. 257 (Pl. 174).[8]

Bone and Ivory. Ch. 32, no. 95 (playing-dice); no. 116 (bone cheek-bar of horse's bridle).

Shell. Ch. 33, no. 7, *a* (a natural shell, *Parreyssia favidens*).

Coins. Square 44·96′, one small group containing one coin of Azes II and Aśpavarma ('Mounted king and Pallas'), one Gondophares ('Mounted king and Zeus Nikephoros to l.'), five Kadphises I ('Hermaeus bust and Heracles').

The structural remains in the uppermost strata of Block B′, most of which have been dismantled in order to reach the lower strata, presented a very irregular plan and, apart from the front line of shops, the same sort of scrappy appearance that distinguishes those in the nearby Blocks C, C′ and the western half of A′. Block B′. Structural remains

[1] A number of small objects from Block C′ not mentioned here will be found listed and illustrated in *A.S.R.* (1914–15), pp. 15–18.

[2] 5·87 in. high. From sq. 46·74′.

[3] Length 6·37 in; sq. 44·74′. Cf. *A.S.R.* (1914), p. 17, no. 3 and Pl. XXV, 11.

[4] 7·62 in. long; sq. 45·78′. *Ibid.* no. 4 and Pl. XXV, 12.

[5] 3·75 in. square. From square 51·72′. *Ibid.* no. 5; and Pl. XXV, 14.

[6] Diameters from 2·0 to 5·12 in. *Ibid.* nos. 12, 7, 20 and Pls. XXV, 31 and XXVI, 55.

[7] 1 in. diameter; sq. 51·76′. *Ibid.* p. 17, no. 8 and Pl. XXIV, 39.

[8] Sk. '27–106; sq. 44·96′; height 1 ft. 9·75 in. Cf. *ibid.* (1927), p. 65, no. 13.

A trench opened in Third Street, which divides Block B′ from A′, revealed a large heap of potsherds, which appear to have been used as refuse for filling purposes at the time of the big reconstructions after the earthquake. Another deep trench opened in squares 26–28.93′–96′ and carried southward in the rear of Block B′ disclosed a mass of ponderous building stones such as were commonly used in the large diaper masonry of the first century A.D.; probably they constituted the foundations of a large Parthian edifice which, like those of the great apsidal temple on the other side of the Main Street, were carried down through the earlier strata to a depth of some 15–20 ft. or even more. The sinking of such deep foundations and the disturbance of ground which it involved explain, as I have already noticed, how relatively late coins and other small objects are so often found in the earlier levels. In this particular trench, for example, one coin of Azes I, two of Azes II, and one of Kadphises I were found at a depth of between 12 and 14 ft. below the surface.

Minor antiquities from Block B′

The miscellaneous objects found in the Parthian and late Śaka strata of this block were relatively few, but comprised a bar of pure gold weighing 2,258 grains ('Jewellery', ch. 30, no. 215); an interesting wheeled brazier of Graeco-Roman pattern ('Iron Objects', ch. 27, no. 37); and a fine specimen of a copper incense-burner, also of western pattern, with handle in the form of a horned and winged lion ('Copper and Bronze', ch. 28, no. 321 and Pls. 176, 184). Other minor antiquities found in this block included:

Terra-cottas. Ch. 24, no. 95 (humped bull).

Stone Objects. Ch. 25, no. 35 (pestle of hornblende); nos. 67, 69 (toilet-trays of grey schist, with two figures holding wine cups in upper compartment); no. 154 (playing-die of slate). Also a small casket of slate containing rouge[1] and a handle of granite decorated at end with ribbed bands.[2]

Iron. Ch. 27, no. 3 (cooking-pot); no. 110 (axe); no. 192, 194 (socketed spuds). Also a carpenter's adze with part only of the handle socket.[3]

Copper and Bronze. Ch. 28, no. 25 (perforated bell-pendant); no. 257 (bell-shaped cooking-pot); no. 418 (bronze *emblema* from vase representing Aphrodite in relief).

Bone and Ivory. Ch. 32, no. 52 (carved handle of bone).

Glass. Ch. 35, no. 12 (piece of blue and white, cameo-cut glass bowl found actually in Third Street).[4]

Finger-rings. Ch. 31, no. 21 (of twisted copper wire); no. 47 (of copper with engraving of Nike holding diadem in r. hand).

Seal. Ch. 34, no. 29 (circular seal of fine slate showing sacrificial implement with swastika and undeciphered Brāhmī inscription).

Block A′ Plan

In the residential house immediately at the back of the shops in Block A′ we are fortunate in having one with a well-defined plan, which leaves no doubt as to its dimensions. Roughly the house covered an area of about 11,000 sq. ft. and comprised three courts, one on the north and two on the south side, encompassed as usual by a number of rooms, some six or seven of which are tolerably large, the

[1] Sk. '28 567; sq. 33·92′. *A.S.R.* (1928), p. 52, no. 8.
[2] Length 4·125 in. Sk. '29–199; sq. 32·89′. Cf. *ibid.* (1929), p. 96, no. 189.
[3] Length 5·25 in. Sk. '28 576; sq. 34·92′. Cf. *ibid.* (1928), p. 52, no. 9.
[4] The technique is the same as that of the well-known Portland vase in the British Museum.

rest small. The principal court, which occupied the south-west corner of the house overlooking Third Street, appears to have been rebuilt, together with the smaller court on its eastern side, after the great earthquake. The other court overlooking Second Street, which is of inferior construction, may be older.

To the west of this house, the rest of the excavated plot (2A′ and 3A′) was occupied by three or four small houses detached from one another and built on very haphazard lines. They appear to be later than the larger house to the east, and are probably to be assigned to the early Kushān period.

Group of copper dies from Block A′

The only group of small objects found in this block consisted of sixty-six copper dies for the fashioning of small ornaments. These dies ('Copper and Bronze Objects', ch. 28, nos. 37–102) are generally similar to those found in Block D′ (p. 189), the only difference between them being that, whereas many of the dies belonging to the latter group are stamped out of sheet-metal, most of those from 2A′ are of solid metal.

Other minor antiquities from Block A′

Other noteworthy objects from this block were as follows:

Pottery. Ch. 23, no. 120 (perforated flask); no. 144 (inkpot with carinated shoulder and cable edging).[1]

Terra-cottas. Ch. 24, no. 46 (head of female figurine in Greek style).

Stone. Ch. 25, no. 3 (celt of nephritic jade); no. 54 (vase of hornblende schist; no. 58 (*alabastron* of veined alabaster); no. 119 (burnisher of brown sardoine); no. 144 (sandstone mould with crescent, star, shield and other devices sunk in the surface); no. 152 (mould of micaceous schist with a variety of devices for the casting, probably, of metal dies). Also three lenticular disks, one of quartz crystal and two of agate, of the kind described under 'Stone Objects', no. 139 (*q.v.*) and illustrated on Pl. 147, *h, j–m, o* and *p*.[2]

Iron. Ch. 27, no. 2 (riveted cooking-pot); no. 4 (welded cooking-pot); no. 120 (bare-metal chisel); no. 149 (solid-bar beak-iron); no. 186 (socketed hoe); no. 212 (plummet). Two other beak-irons were also found in this area, one of the solid-bar type, the other of the stool type.[3]

Copper and Bronze. Ch. 28, no. 28 (pendant composed of two fishes); no. 298 (Graeco-Roman frying-pan with ram's head handle); no. 391 (toy chariot); nos. 396, 399 (reliefs of vine leaves); no. 400 (copper sheet embossed with four hearts, acanthus and stylised lotus pattern); no. 420 (copper medallion with female bust within wreath). Besides the above, I may notice also a copper spatula with a *nandipada* handle similar to the one described under 'Copper and Bronze Objects', no. 361, and a small figurine of a standing male figure wearing a cloak which falls down the back, leaving the front of the body bare. This figurine, which was stolen before it had time to be cleaned, is illustrated in *A.S.R.* (1923–4), Pl. XXVII, no. 5.[4]

Bone and Ivory. Ch. 32, no. 21 (ornamented hair-comb); no. 54 (bone handle); no. 63 (side-pieces of knife handle); no. 94 (ivory playing-die).

Glass. Ch. 35, nos. 2, 3 (flasks of jade-green glass).

Stone Sculpture. Ch. 36, no. 4 (nude standing female figurine in round: archaic style).

The last-mentioned sculpture, with its stiffly frontal attitude and other archaic traits, is of the greatest interest, as it is undoubtedly a product of the Gandhāra School and is one of the

[1] For other pieces of pottery found in this block, cf. *A.S.R.* (1929–30), p. 97, nos. 203–8.

[2] Cf. *A.S.R.* (1929–30), p. 96, nos. 183–5. Another object from this block appears to have been the pivot-stone of a potter's wheel. *Ibid.* no. 188.

[3] Cf. *ibid.* (1928–9), p. 51, no. 2 and (1929–30), p. 97, no. 200.

[4] This, so far as I know, was the only object stolen during the 20 years and more that I was excavating at Taxila. It disappeared during the visit of a party of journalists.

few pieces known to us (all from Taxila) which show us that school in its infancy. There is little doubt that it dates from about the beginning of the Christian era.

Block 1′

The next block on the west side of the Main Street differs from the corresponding one on the east side in that the buildings composing it were of a better class and were not carried right up against the city wall, but separated from it by First Street. The remains of the first and second strata are much mutilated but appear to have comprised three separate and detached houses (1′, 2′ and 3′) with the beginning of a fourth in the west—all dating from the Śaka-Parthian period but repaired and added to in early Kushān times. The plan of House 2′, together with the plans of the buildings which preceded it on the same site, will be found on Pl. 15.

Minor antiquities from Block 1′

None of the minor antiquities from this block is of particular interest, but the following deserve mention:

Pottery. Ch. 23, no. 64, *a* (double-spouted pot); no. 90 (standard beaker); no. 132, *a* (offering-stand or censer); no. 157 (rhyton); no. 215 (open gutter).

Terra-cottas. Ch. 24, no. 42, *a* (squatting *kumbhāṇḍa*); no. 87 (toy saddle-horse); no. 161 (square hut with pitched roof from a ritual tank).

Stone Objects. Ch. 25, no. 18 (ornamental stool-quern); no. 90 (toilet-tray adorned with winged monster); no. 120 (burnisher of banded agate in copper handle).

Iron. Ch. 27, no. 13 (dish with splayed sides); no. 145 (beak-iron of 'stool' pattern).

Copper and Bronze. Ch. 28, no. 395 (copper plate with four swastikas); no. 425 (bronze statuette of standing male figure).

Jewellery. Ch. 30, no. 176 (gold rosette).

Bone and Ivory. Ch. 32, no. 17 ('bucranium' amulet); no. 57 (ivory handle of fan or fly-whisk); no. 68 (bone spoon); no. 96 (bone playing-die); no. 104 (toy furniture of ivory).

Shell. Ch. 33, no. 6 (natural shell = *lamellidens marginalis*).

Finger-rings. Ch. 31, no. 4 (gold ring with malachite setting and heart-shaped cloisons); no. 24 (copper ring with nine sacred symbols around outside of hoop).

Trial trenches in Sirkap

In concluding this account of my diggings in the lower city of Sirkap it remains to note that, in addition to the excavations described in the foregoing pages, a series of trial trenches, 10 ft. in width and aggregating over 7,000 ft. in length, was sunk across the extensive tract of open ground on the west side of the lower city. The positions of these trenches are not shown in the published plan, but they are indicated by pairs of masonry pillars set up on the site itself, and a record of them is preserved in the local museum. The structural remains encountered in the course of these trial diggings appear for the most part to be similar to the ordinary residential buildings exposed in other parts of the site. Here and there, however, lengths of massive walling were met with which evidently belonged to structures of a different and more imposing class, like the great court on the east side of Block F. Thus in Trench D (squares 64–72) a section of wall, 5 ft. 3 in. thick, was followed up for a distance of 195 ft., and in the same trench (squares 121, 122) was another fine piece of walling of the early diaper type. Again in Trench G (squares 4–11) there was a particularly strong and well-built wall of the third stratum, 3 ft. 2 in. thick and 80 ft. in length.

Structural remains disclosed

Other features of interest met with in these trial trenches were floors of slate slabs (F 1 and 15) belonging to the first stratum; patches of brick pavement (D 74–9) and several lengths of underground drains belonging to the second stratum (Pl. 21, *c*, *d*). Two sections of these drains in trenches B8 and 9 were of different construction but connected with one another. One section, which was 26 ft. in length and 1 ft. 2 in. wide internally, was built entirely of stone; the other, which was traced for 35 ft., consisted of earthenware pipes, protected on either side by a stone wall. The pipes were 9 in. in diameter and from 12·5 to 14·5 in. in length, with spigot and faucet joints (cf. 'Pottery', ch. 23, nos. 208–9 and *A.S.R.* (1927 8), Pl. XVIII, *b*).

Among the minor antiquities recovered from these trenches may be noticed the following: *Minor antiquities from trial trenches*

1. A number of large earthenware store-jars (e.g. D95, 142; F 1, 2, 15, 21) of the types illustrated in Pl. 121, nos. 3, 4.
2. Fragments of ritual tanks (cf. 'Terra-cottas', ch. 24, nos. 155 62).
3. Three groups of iron objects, much corroded, comprising clamps, bells, fastenings, wheeled brazier, sword blades and scale-pans, all of the late Śaka-Parthian period. From B 18 and F 7 and 9.
4. Two miniature tripod bowls of copper, one of which is described under 'Copper and Bronze Objects', ch. 28, no. 205 and Pl. 171, *p*. The other, height 1·2 in., was from D 15; 5 ft. 6 in. below surface.
5. Group of the following objects from D34; 4 ft. 6 in. below surface.
   (*a*) Earthenware water-bottle adorned with linear and floral patterns in chocolate on a cream-coloured slip ('Pottery', ch. 23, no. 225 and Pl. 127, no. 225).
   (*b*) Copper ladle with looped spatulate handle, length 8·4 in. (for type, cf. 'Copper and Bronze Objects', ch. 28, nos. 306 8).
   (*c*) Copper cup with vertical sides on low base. Height 3·75 in.
   (*d*) Standard carinated goblet of copper (height 6·3 in.) with horizontal flutings between shoulder and base similar to *ibid.* no. 272. Inside the goblet were 341 coins, viz. one of Euthydemus ('Head of Heracles and galloping horse'), one Hermaeus ('Bust of king and seated Zeus'), one Maues ('Elephant head and caduceus'), one Azes I ('Elephant and bull'), 337 Kadphises I ('Bust of Hermaeus and Heracles'; six with name of Hermaeus on obv. 331 with name of Kadphises).
6. Hair-pin of copper with terminal in form of female figure, from G 51, 3 ft. below surface (*ibid.* no. 228 = Pl. 173, *p*).
7. Cylindrical unguent-vase of grey schist, from H 56; 1 ft. 10 in. below surface ('Stone Objects', ch. 25, no. 59 = Pl. 141, *f*).

SUMMARY OF MATERIAL CULTURE AT TAXILA IN FIRST CENTURY A.D.

We have now completed our survey of the buildings and antiquities belonging to the Late Śaka and Parthian settlements in Sirkap, and are in a position to sum up the general character of the culture disclosed. But first let me remind the reader that the quarter of the Sirkap city which has been excavated was mainly occupied by the royal palace and the residences of the wealthier citizens, who no doubt belonged to the ruling classes and would presumably be of Śaka or Parthian

extraction. It is only to be expected, therefore, that the antiquities brought to light in this quarter should display a more foreign—in particular, a more Hellenistic—character than those likely to be found in other parts of the city where the resident population was either Indian or in a great measure Indianised.

Culture of Śakas and Parthians not identical

Another point, too, that needs to be emphasised is that, although the Śakas and Parthians were closely—sometimes almost indissolubly—connected, their culture was far from being identical. The Śakas borrowed many of their institutions and most of their arts and crafts from the Bactrian Greeks who had preceded them in the North-West, and, as far as they were able, they continued to employ whatever local Graeco-Bactrian talent was available. They themselves, however, had little real understanding of the Greek genius and were at the best no more than copyists. Being cut off, moreover, from contact with the west, they were unable to bring in fresh blood from abroad; and it was inevitable, therefore, that, as the supply of local talent failed, their art and their craftsmanship should become either more Indianised or increasingly barbaric. With the Parthians it was different. In their artistic tastes they were probably no whit superior to the Śakas; possibly they were inferior; but they had the advantage of being masters of the major part of the old Seleucid Empire, were in close contact with the Graeco-Roman world and prided themselves on their phil-Hellenism. Unlike the Śakas, therefore, they were able to import, and did import, *objets d'art* of all sorts, as well as artists and craftsmen, from the west—principally, no doubt, from Syria and Egypt. And in this way they were responsible for giving a fresh lease of life to what still survived of the old Hellenistic or quasi-Hellenistic culture in the north-west of India and Afghānistān.[1] We cannot suppose that this new wave of classical influence went very deep or was very lasting. Parthian rule in India was too short-lived for that. But its effects are certainly conspicuous at Taxila, and it accounts for much in the art-history of this part of India that would otherwise be inexplicable. It should be noted too, in passing, that it contributed not a little to the evolution of the then nascent school of Gandhāra.

Hellenistic lay-out of city

The city itself was laid out in the same Hellenistic pattern, with streets at right angles to one another, as the older cities of the Bactrian Greeks and early Śakas on the same site, and it continued to make use of the same old stone-built fortifications. The Main Street ran from north to south; the side-streets from east to west. Between the latter, which were disposed at fairly regular intervals averaging some 120 ft. or more, were blocks of buildings usually with a row of small shops fronting the main street and private houses behind. In some blocks the line of shops was broken by a small shrine, or more rarely, as in Blocks A and D, the shrines occupied the entire frontage. The private houses at the back commonly extended the whole width of the block and averaged about 120 ft. in depth, though some were substantially smaller, some much larger.

Building construction and effect of great earthquake

Until about A.D. 20 or 30, when Taxila was devastated by a severe earthquake, the buildings were constructed of stone rubble, more or less coursed, in mud; but after the earthquake a new and more stable type of diaper masonry was introduced—

[1] Witness, for example, the fine glassware from Syria and the remarkable series of plaster reliefs found by the late M. Hackin at Begrām in the Kābul valley.

probably from Gandhāra—and widely used in the reconstruction of the fallen buildings. At the same time further security was obtained by deepening the foundations, which until then had been very shallow, and, if we may accept the testimony of Philostratus, as we have good reason for doing, by reducing the number of stories to two, the lower of which was frequently left half buried beneath the fallen debris and thus constituted a sort of basement.

Walls, whether of rubble or diaper masonry, were protected with lime and mud plaster, the former being applied to the exposed exteriors, the latter to the interiors. In both cases lime whitewash or colour wash was commonly used to finish off the surface; and sometimes simple decorative schemes appear to have been worked out in several colours. Timber was employed for the upper floors and roofs, as well as for verandas, doors and smaller fittings, and in some cases for dado panelling. As usual in the Orient, the roofs were flat and covered with a thick layer of mud. Whether the walls were of stone throughout is open to question. In some of the monasteries, like the Pippala (pp. 365–6), which are better preserved than the private houses, most of the interior walls were solid to a height of 2 or 3 ft. only, but above that of mud interspersed with small boulders. There is evidence that the same method of construction was adopted in many of the private houses.

House planning

In the matter of their plans the houses display less symmetry than might be expected in a city as regularly laid out as Sirkap, but they show a decided improvement on the earlier houses at the Bhir site, and in spite of their conspicuous diversity and many irregularities they are still based on the same principle—the unit of their design being the open court flanked or encompassed by chambers (*chatuḥśālā*), which is repeated two, three, four or more times according to the amount of accommodation required.

Notwithstanding the reduction in their height after the great earthquake, the houses of the wealthier classes must still have had plenty of accommodation; for, as a rule, they possessed three or four open courts, with two or three dozen chambers ranged about them on each floor, the whole covering an average area of some 15,000 sq. ft. Of the several courts one was doubtless reserved for the womenfolk and another for servants or retainers; the rest would be for more public use, and in the larger houses reconstructed under the Parthian regime one of the courts was provided with a raised dais or *dīwān*, similar to the *dīwāns* in the royal palace but on a smaller scale.

The majority of the ground-floor rooms are noticeably small, but this need not occasion surprise; even to this day it is a characteristic of most Indian houses and of many royal palaces. It is likely enough, however, that the family had its living-rooms on the upper floor and that the rooms on the lower floor were occupied by the menials or served as store-rooms, closets, etc. Provision was also made for the stabling of horses or cattle on the ground-floor, the stables being paved with rough cobble-stones. Stone pavements were also laid in some of the open courtyards and occasionally in other chambers; but, making all allowances for the inevitable destruction that has taken place in the intervening centuries, such pavements seem to have been sparingly used.

Sanitation and drainage

As to sanitary arrangements and drainage, they were certainly very inferior to those found at a much earlier date in the prehistoric city of Mohenjo-daro, where it may be recalled that there were not only covered drains for sewage in houses and streets, but also privies and refuse-chutes—the latter descending from the upper stories and let into the thickness of the house walls. In the Śaka-Parthian city on Sirkap there were covered drains down some, if not down all, of the side-streets, and small drains connecting with them from the adjacent houses, but there is no evidence of any drain, either open or underground, having existed at any time in the Main Street, though there was a drainage culvert underneath the North Gate. We must infer, therefore, that the house and side-street drains were designed, not for sewage, as at Mohenjo-daro, but for surface water only, which was discharged into the Main Street and thence found its way out through the culvert alluded to under the North Gate. What means were adopted for the disposal of sewage is not apparent. Though not entirely forgotten,[1] the old-fashioned soak-well or refuse shaft had virtually ceased to be used after the transfer of the city from the Bhiṛ Mound to Sirkap; and so, too, had the larger kind of public refuse bins which are found on the earlier site. It would seem, therefore, either that the refuse was taken away and deposited somewhere outside the city by municipal sweepers or—which is much less likely—that each householder made his own arrangements for its disposal. Both house and street drains, it should be added, are commonly constructed of limestone blocks, sometimes plastered on the inside. In a very few cases they are of brick. In Sirkap, slates are used more sparingly than in the Bhiṛ Mound, whether for drains or flooring.

Disposal of debris after the great earthquake

I have said that after the great earthquake the lower stories of the houses were commonly left half-buried in the fallen debris. This was done to give the fabric greater stability in case of earthquake and at the same time to save the expense of carting away the debris, much of which would have been superfluous when the height of the buildings had been reduced, and in any case would have been unsuitable for incorporation in the new kind of diaper masonry. Naturally, however, there was little uniformity in the way the builders disposed of the debris. In some cases it was left lying and levelled up inside the open courts as well as outside the house; in others, as in the royal palace (Block K), it was entirely removed and the previous Śaka level restored. When I first excavated these buildings in Sirkap, I thought that the half-buried chambers of the ground-floor had been intentionally designed as underground *tahkhānas*, such as are still common as a protection against the heat in Indian and Persian towns, but further excavation has left no doubt in my mind that they came into being in the manner described above as an aftermath of the great earthquake. That they were the underground basements referred to by Philostratus as something out of the ordinary in an Indian city is hardly likely to be questioned.[2]

[1] There were two such wells in the entrance way of the North Gateway.

[2] For Philostratus, see p. 64 *supra*.

Decoration of houses

Apart from the above features, Philostratus tells us nothing about the appearance of the houses either inside or out, nor has anything been unearthed on the site which might throw light on the character of their architecture. But, though there is no carved stone- or plaster-work, it is quite possible that the woodwork, which has entirely perished, may have been as elaborately carved as it is in many Indian houses to-day, and this possibility seems to be strengthened by contemporary reliefs from the neighbouring country of Gandhāra, which depict architectural carvings of a singularly rich and imaginative character. But here, again, we are on uncertain ground, as the sculptors of Gandhāra portrayed not only much that is merely fanciful and unreal, but much also that is demonstrably derived from the traditional architecture associated with early Buddhism in Central India and Hindustān. On the whole, we shall probably not be far wrong if we assume that the house designer at this period, if he resorted to ornament at all, resorted to much the same limited and uninspiring stock of forms and motifs as the designer of sacred shrines and stūpas, though naturally with such emblems as had a particular religious significance omitted. In other words, his stock would consist in the main of the few debased Hellenistic features—Corinthian and Ionic pillars, pediments and the like—that were then generally prevalent in this part of India. As to the post-earthquake buildings, they were probably reconstructed as rapidly as possible and are likely to have been even plainer than usual.

Royal palace

The royal palace, as I have already remarked, was little more than a glorified edition of one of the private houses, the main differences between them being the larger size and number of the courts, and the absence of any basement rooms in the palace, such rooms having perhaps been deemed unnecessary in view of the greater strength and stability of most of the walls. Philostratus would have us believe that the quiet, unpretentious architecture of the palace reflected the character of the then reigning King Phraotes (*sc.* Gondophares). It may be so; but so far at least as the plan of the palace was concerned, it seems fairly clear that the Parthian king was carrying on the tradition of his Śaka predecessors, and in any case could hardly have been in possession of Taxila long enough to indulge in very ambitious schemes of architecture.

Large numbers of sacred buildings of Graeco-Indian character

A fact that stands out clearly amid these ruins of Sirkap is that the people who once lived in them must have been very religiously minded; for there are sacred edifices to be seen on every hand, not only in the city itself but in all the country round about. Most of them are Buddhist; a few Jaina; and one, the temple of Jaṇḍiāl, which dates from a slightly earlier period but was at this time still in use, dedicated in all probability to fire-worship.[1] This last was essentially like a Greek temple, with such modifications as were imposed by the ceremonial connected with fire-worship and the difficulty of obtaining stone suitable for carving in the neighbourhood of Taxila: just such a building, in fact, as might have been erected for fire-worship anywhere in Western Asia, where Hellenism was prevalent. The Buddhist and Jaina buildings also conform in their main lines to the traditions of

[1] Cf. ch. 9.

those religions; only in their ancillary and unessential decoration do they succumb to the influence of the decadent Hellenistic ideas which were still ubiquitous in the Panjāb. A typical example erected under the late Śaka regime is the stūpa of the double-headed eagle in Block F. Here, the form of the monument is characteristically Buddhist, though the square base may have been a foreign innovation; but the decoration is made up of a combination of Greek and Indian elements, in which the former, taken from the common stock-in-trade of the local architects and now little more than stereotype survivals, predominate over the latter. The same remarks apply to the great apsidal temple with its subsidiary stūpas in Block D, which was built after the Parthian conquest, but in this case a few of the best decorative figures (e.g. Pl. 148, nos. 1, 2), which are more purely Hellenistic in style than the remainder, may, I surmise, have been produced from moulds brought from the west in the first century A.D., though it is also quite possible that the particular moulds in question had been handed down in the artist's family for several generations—a hypothesis that would, of course, account for their superior execution.

Minor antiquities, partly Greek or Western Asiatic, partly Indian in character

The story that these buildings tell of Graeco-Indian culture lingering on in the Panjāb and then being revitalised for a space under the short-lived Parthian rule finds still clearer expression in the immense array of minor antiquities belonging to this period from Sirkap. These antiquities consist in the main of personal ornaments, including a magnificent collection of gold and silver jewellery; articles for the dress and toilet; household vessels and utensils; carpenters' and metal-workers' tools; stone weights; agricultural and gardening implements; a few surgical and other instruments; children's playthings; dice; weapons and armour; horse-trappings and elephant goads; sacred images and reliefs; votive and ritual objects and amulets; seals and sealings; moulds and stamps for the stamping of pottery and textiles; metal dies for the fashioning of ornaments, and coins. Speaking generally, Greek and Western Asiatic influence appears most prominently in the more expensive articles such as the gold and silver jewellery, silver and bronze vessels, engraved and carved stones and glass. Indian influence, on the other hand, is most conspicuous in the cheaper kinds of wares made of baked clay, iron, bone and the like. This is only what might be expected in a society where the wealthy ruling class was foreign and much affected by the Hellenistic culture of the West, and where the poorer people were largely Indian and necessarily permeated with much of the traditional culture of India. But this generalisation must not be pressed too far. There are many exceptions to it. Thus, among the potteries there are a variety of types that are traceable to a Greek origin. Such are the alabastron-shaped flasks of Class III, *d*; the handled jugs of Class XIII, including some wine amphorae from Mesopotamia; the beakers and bowls with deep-flared mouths of Classes XIV, *b*, *c* and XV, *d*; the *mesomphaloi* dishes of Class XVI; the lamps of Class XXI, *d*; the inkpots of Class XXII; and the rhyton censers of Class XXIV, *c*. Then, among shapes to be classed perhaps as Parthian rather than Hellenistic there are the bell-shaped carinated vessels of Class XI; the standard goblets with deep-

flared mouths and horizontal ribbing of Class XIV, *c*, and the small hand censers of Class XX, *b*. Similarly, among the terra-cottas we have such obviously Hellenistic figurines as those in Classes VIII and XIII; and, conversely, among the gold and silver jewellery we have a few objects of Indian design such as the pin and gold torque with *nandipada* head and fastener respectively ('Jewellery', ch. 30, nos. 101, 147) and some bangles and anklets with typically Indian patterns (*ibid.* nos. 148–65). We need not, however, pursue this subject further, as the reader can find any additional information he may require in the chapters relating to the minor antiquities.

Personal ornaments of gold

The personal ornaments prevalent at this period are particularly striking. The finest are of gold frequently encrusted with coloured stones and pastes. These comprise ear-pendants, ear-rings and ear-plugs (*ibid.* nos. 2–53, 167, 168), necklaces (nos. 56–68, 70, 74), girdles, breast-chains and belts (nos. 75–9), pendants (nos. 89–94), brooches (nos. 96–9), hair-pins (nos. 100, 101), bangles and bracelets (nos. 102–32, 137–43), torques (nos. 145, 146), and finger-rings ('Finger-rings', ch. 31, nos. 2–6, 8–17). As stated in the introduction to the chapter on Jewellery, most of these ornaments are typically Greek or Graeco-Roman in design and fundamentally different from contemporary Indian jewellery. Outstanding among them are: the magnificent 'amphora' pendant of gold and turquoise ('Jewellery', ch. 30, no. 2); the fine series of seventeen ear-pendants of leech-and-pendant pattern (nos. 9–25); the three brooches composed of repoussé figures of Aphrodite and Eros with Psyche (nos. 96–8); the pair of barrel-shaped ear-pendants of gold and turquoise cloisonné work (nos. 167, 168); the elaborate and richly bejewelled necklaces (nos. 56–8); the series of gold bangles and torques, mostly with trumpet ends (nos. 116–32, 144–7); the seven gate-clasp bracelets encrusted with gems in the Graeco-Scythic style (nos. 137–43), and the finger-rings (nos. 3, 11, 12).[1] Apart from the figural reliefs, the most distinctive motifs employed by the Taxila goldsmiths are the leech-crescent, double-crescent, heart, comma and quatrefoil-comma, repeated S, segmented row of circlets, spearhead-and-drop, interlocking merlons, pendant bud, fish, and dolphins affrontés. Other characteristic features are the decoration of the surface with fine granulation, particularly with what is known as 'field grainwork', and the free use of filigree, cloisonné work and incrustation with gems. Characteristic, too, are the trumpet-shaped ends of bangles and torques, the small spherical spacer-beads of openwork gold filled with stones or paste, and the pendant chains and bells. Many of these ornaments are made of sheet-gold beaten out on metal dies and either left hollow or more usually filled with mastic, lac or sulphur. A large assortment of the metal dies used for this purpose is illustrated on Pls. 179–81 and described under 'Copper and Bronze Objects', ch. 28, nos. 37–203. The gems and other substances used for incrustation are: carnelian, chalcedony, garnet, jacinth, jasper, lapis-lazuli, malachite, pearl, rock-crystal, turquoise, black marble, white orthoclase felspar, chert, amber, glass and paste. White felspar, turquoise and crystal were particularly fashionable.

[1] The fine ring, no. 16, with the figure of a Greek warrior and an early Brāhmī inscription, though found in the first-century stratum, was evidently an heirloom of earlier date.

Ornaments of silver, copper and bronze

Silver, though widely used for other purposes, was not fashionable at this period for personal ornaments: indeed, the only ornaments of note made of silver are some anklets and bracelets of typically Indian pattern, possibly imported from Hindustān ('Jewellery', ch. 30, nos. 148–65) and a silver hair-pin with gold head (no. 101). Copper, on the other hand, was frequently substituted for gold in the cheaper sorts of ornaments, and it is not unlikely that in some cases the copper was plated with gold, as it was in the bangle of Maurya date figured in Pl. 195, *e* ('Copper and Bronze', ch. 28, no. 7). Such copper ornaments comprise: bracelets, bangles and armlets (nos. 2, 3, 6, 10, 11, 14, 18); ear-rings (no. 19); pendants (no. 25); buckles, clasps, etc. (nos. 29, 31, 32, 34–6); hair-pins (nos. 228–39); and finger-rings ('Finger-rings', ch. 31, nos. 20, 21, 24, 31, 33, 35, 36, 39, 42–51, 53–5). Hair-pins were also made of bone and ivory,[1] some of the cheaper kinds of bangles of bone, ivory, shell and glass,[2] and a few finger-rings of onyx or glass.[3]

Seals

Like the ornaments described above, most of the seals of this period, though much debased, are obviously of Graeco-Roman origin or copied from Graeco-Roman prototypes. Indeed, two of the nineteen specimens recovered from the Śaka-Parthian city were almost certainly imported from the west. These are the nicolo seal no. 14, and the carnelian seal in a gold setting no. 30. Others, along with several of the finger-rings, seem to have been inspired by contemporary coin engraving, notable among them being nos. 19, 28, 42, which are engraved respectively with figures of a humped Indian bull, Poseidon trampling on a river-god, and a winged Nike holding wreath and fillet.[4] Most of these Śaka-Parthian seals are of copper or bronze, with square oval or round faces and small rings at the back, but two are of stone, two of glass, one of shell and one of terra-cotta.[5] This is a type of seal that appeared at Taxila for the first time during the Śaka-Parthian period, and may have been introduced by the Parthians.

Beads[6]

Ornamental beads were as popular in this as in the preceding period. Of the 4,734 specimens from the Śaka-Parthian strata in Sirkap, 2,769 are of glass, 1,144 of shell, 561 of semi-precious stones, 28 of commoner varieties of stone, 198 of faience, 4 of copper and the remainder of amber (7), coral (2), bone (11), ebony (2), ebonite (1), jet (3) and terra-cotta (4). The favourite colours among the glass beads are opaque yellow and orange (1,437 and 139 respectively), green (336), blue (203), grey (68) and amber (56); but it should be noted that most of the opaque yellow and orange specimens were minute disk-shaped beads, strung in hundreds to form a single necklace. Other colours in use at this period were black (17), opaque white (22), cobalt, peacock blue and violet (1 each), cream (3), red (5), translucent yellow (4), blotched (2). The remaining 474 are multicoloured or colourless.

Of the semi-precious stones fashioned into beads, the most popular were the

[1] 'Bone and Ivory Objects', ch. 32, nos. 29, 34.
[2] *Ibid.* nos. 2–4; 'Shell Objects', ch. 33, Class II, nos. 16–41; 'Glass', pp. 684–5.
[3] 'Finger-rings', ch. 31, nos. 60, 67, 68.
[4] For parallel devices on coins, see Introd. to 'Seals and Sealings', ch. 34.
[5] Cf. 'Seals and Sealings', *ibid.* nos. 15, 17–19, 21–30, 32–6.
[6] For further particulars of the beads, see ch. 37.

carnelian (223), agate (111), crystal quartz (46), malachite (40), glazed quartz, including two opaque (41), lapis-lazuli (28), garnet (24) and jasper (20). Other varieties less frequently employed were the amethyst (10), beryl (2), chalcedony (2), onyx (2), yellow quartz (4), aquamarine (1), turquoise (1), blue and red serpentine (5 and 1 respectively). The common stones used for beads included granite (3), limestone (4), marble (2), steatite (7).

As to shapes, the commonest at this time were the disk (1,857), spherical (744), lenticular (342), oblate (206), barrel (213)[1] and cornerless cube (200). Then came the domical (97), scaraboid (81), cylindrical (77),[2] tabular (73), angular and faceted (77), segmented (40), biconical (35).[3] Rarer shapes were the ovoid (8), gadrooned (10), cubical (10), conical (4) and leech (2). Besides the above shapes, the collection also comprised over 80 pendants of various forms, the most favoured among them being the drop (19), vase-shaped (14) and cowrie-shaped (11). Others, which had an amuletic value, took the form of a lion, crow, cock, tortoise, frog, leaf, fist, tiger claw, axes, heart or *nandipada*.

Articles of the toilet

Articles for the toilet comprised: mirrors, small unguent pots and bowls, jewel-caskets, scent flasks, antimony-phials, rods, ear-cleaners, toothpicks, combs and toilet-trays. The mirrors are of copper and bronze and furnished, as a rule, with a carved bone or ivory handle of conspicuously rough workmanship ('Copper and Bronze', ch. 28, nos. 208, 211 and 'Bone and Ivory', ch. 32, nos. 44, 45, 48–52, 54–7). Of copper and bronze also are the unguent pots and bowls and antimony-phials ('Copper and Bronze', ch. 28, nos. 205–7, 242, 245–51). Antimony-rods, toothpicks and ear-cleaners are sometimes made of copper, sometimes of bone or ivory (*ibid.* nos. 212, 213, 215, 216, 219–25, and 'Bone and Ivory', nos. 38–42). Combs are of bone and ivory, usually adorned with incised patterns or low reliefs (nos. 19–21, 23). Scent flasks of silver resemble the Greek *aryballoi* ('Silverware', ch. 29, nos. 3, 4), and there are other small vases of stone resembling the Greek alabastra ('Stone Objects', ch. 25, no. 58). Jewel caskets are of copper, bronze and stone and commonly take the form of the Greek *pyxis*, but are sometimes spherical or vase-shaped ('Copper and Bronze', ch. 28, nos. 252–4; 'Stone Objects', ch. 25, nos. 98–103, 105, 106). The toilet-trays, if toilet-trays they really are, are obviously imitated from Hellenistic prototypes, many examples of which have been found in Egypt. They are of soft stone elaborately enriched with carvings, and were probably manufactured mainly in the ateliers of Gandhāra. Among the carvings convivial and wine-drinking scenes are specially common, and these taken in conjunction with the large number of drinking vessels of all sorts found in this stratum suggest that wine-drinking was popular with the ruling classes (*ibid.* nos. 64–77, 80, 81, 85–90, 92–4, 97).

Household vessels and utensils made commonly of earthenware

Household vessels and utensils, as might be expected at a town site such as

[1] The barrel beads included: standard, long, short, flat, rectangular, short-square, triangular, hexagonal, pentagonal and oval.

[2] The cylindrical included: standard, short, hexagonal and rectangular.

[3] The biconical included: long, short, square, truncated, flat truncated, square truncated, hexagonal truncated and pentagonal truncated.

Sirkap, constitute a considerable part of the collection. The bulk of the vessels, needless to say, are of earthenware, but the only types of vessels that are made exclusively of earthenware are large store-jars ('Pottery', ch. 23, nos. 3, 4, 7), containers for oil and wine (*ibid.* nos. 13–15), water-pots of various patterns (*ibid.* nos. 29, 33, 36, 39, 41) and water-bottles for transport, often called 'pilgrims' flasks' (*ibid.* nos. 44, 47). All other types of earthenware vessels are found duplicated in copper and bronze, and a number of them in silver, iron and stone. These other types comprise cooking-pots and cauldrons (*ibid.* no. 50); jars of medium capacity (no. 59); spouted and handled jugs and ewers (nos. 64, *a*, 72–4, 80–2); standard drinking-cups, goblets and beakers (nos. 86–8, 90, 91); flasks (nos. 20–4); bowls and cups (nos. 93, 100, 102, 104–7); dishes and saucers (no. 109); mixing-pans and basins (no. 117–19). The decoration of pottery, which is far from common at this period, is carried out in one of three ways: either by painting the design in black, brown or purplish brown, on a red ground, or by incising it with a sharp point while the clay was still wet, or by stamping it on the clay with a stamp or roulette. The painted designs comprise only simple motifs, viz. dog-tooth, chevrons, loops, swags, lattice triangles, quatrefoil crosses, trees and birds (*ibid.* nos. 219–21, 223); the incised and stamped designs are even simpler (*ibid.* nos. 232–3, 246, 249; and for stamps, nos. 260–2).

Of the above vessels, a certain number were copies of Hellenistic or other western shapes. Such were the two-handled amphorae (nos. 14, 15, 81, 82), water-bottles (nos. 44, 47) handled jugs (nos. 77, 80), goblets (nos. 86–8, 90, 91), and *mesomphalos* dish (no. 109). In the case of nos. 14, 77 and 80 the presence of nail-heads demonstrates the metallic character of the originals from which these vessels were imitated. The goblets and *phiale mesomphalos* were also copied from metal prototypes (cf. 'Copper and Bronze', ch. 28, nos. 270–3, 289, and 'Silverware', ch. 29, nos. 5, *a*, *b*, 10).

but also of silver

The silver vessels were almost exclusively copies of foreign—mainly Hellenistic—originals and some of them may have been imported from the West. Such are the small-handled jug (*ibid.* no. 1), the *askos* with vine-leaf handle (no. 2), the scent flasks already noticed (nos. 3, 4), the fluted beakers (nos. 5, *a*, *b*), the standard cups and *mesomphalos* dish (nos. 8–10), the encrusted paterae (nos. 14, *a*, *b*), the ladles and spoons (nos. 15–17), the lids with dolphin handles (nos. 20, *a*, *b*), and probably the imitation basketwork strainer (no. 19). The same observation applies also to many of the copper and bronze vessels, notably to the handled jugs and ewers ('Copper and Bronze', ch. 28, nos. 261, 263, 264), standard cups and goblets (*ibid.* nos. 266–8, 271, 272), *mesomphaloi* dishes (nos. 289, 290), beaded and leaf pattern saucers (nos. 294–7), frying-pans with ram-headed handles (nos. 298, 299), two-handled basins (nos. 303, 304), ladles and spoons (nos. 305, 306, 308, 309–13, 317). On the other hand, the large copper cooking-pots (nos. 255–8) are of Indian pattern, and so, too, is the spouted and handled ewer, which served perhaps a ceremonial purpose (no. 260), as well as a certain number of other vessels of less characteristic form such as bowls, basins, etc. (e.g. nos. 278, 281 282, 301).

or of copper or bronze

Iron, which was harder and more difficult to work than copper, was fashioned into large cooking-pots, similar in shape and technique to those made of copper ('Iron', ch. 27, nos. 1-4) and into such simple vessels as bowls (nos. 9-11), dishes and saucers (nos. 13-15), frying-pans, basins (nos. 17, 18), and rough cooking spoons and ladles (nos. 20, 21, 24, 25). Stone, on the other hand, was used mainly for small ornamental jars, goblets, bowls, saucers and dishes (including some of the Greek *mesomphalos* pattern—obviously copied from metal prototypes), nearly all of which were imported, like the toilet-trays and caskets, from Gandhāra. Bone and ivory were reserved for spoons and knife-handles ('Bone and Ivory', ch. 32, nos. 61-5, 68). A few glass vessels were also in use, but only very few, and all of them seem to have been imported from the West. There is no evidence of the manufacture of glass objects at Taxila other than beads and tiles.

or of iron

or of stone, bone or ivory, very rarely of glass

Besides the above, many other articles of everyday use were found in these houses: querns, mullers, grinding and crushing mills, pestles and mortars and spindle-whorls. All these were made of stone[1] obtained for the most part in the neighbourhood of Taxila, but the stool querns, which were often elaborately carved, were sometimes made of the peculiar spotted red sandstone which is found only in certain quarries near Mathurā and are evidence of the trade that was going on between Taxila and that place. Schist and other soft stones, as well as pottery and iron, were used for the manufacture of lamps, but in this case the stones came from Gandhāra, from which the lamps were, no doubt, exported ready-made.[2] Candelabra, wheeled braziers for shifting fires from room to room and shovels—the two first of Graeco-Roman pattern—were of iron;[3] inkpots—also for the most part of western design—were of copper, bronze or earthenware; pens with split points were of copper and doubtless of reeds also, though no specimens of the latter have survived. Stili for writing on wax and modelling implements were made of bone or ivory;[4] bells and locks and keys of iron, copper or bronze.[5] Finally, it remains to mention a very modern-looking folding-chair made of iron,[6] water-condensers of earthenware,[7] and a table ornament of silver with the bust of Dionysus or Silenus handsomely embossed in high relief.[8]

Other articles of daily use

Carpenters', blacksmiths' and other metal-workers' tools comprise axes, adzes, chisels, knives, choppers, saw, tongs, pliers, tweezers, scissors, hammers, picks, beak-irons or anvils and a blow-pipe. The blow-pipe and a number of small

Tools, implements, arms, armour and horse-trappings

[1] 'Stone Objects', ch. 25, nos. 16-18 (querns); nos, 25, 26 (mullers); nos. 27-31 (mills); nos. 33, 35 (pestles and mortars), and no. 124 (spindle whorls).

[2] *Ibid.* nos. 110, 113.

[3] 'Iron Objects', ch. 27, nos. 33-5 (candelabra); nos. 37, 38 (wheeled braziers); nos. 39-40 (shovels).

[4] For inkpots, pens, stili, etc., cf. 'Pottery', ch. 23, nos. 143-5, 148, 149; 'Copper and Bronze', ch. 28, nos. 328, 334-6, 338, 340, 341; 'Bone and Ivory', ch. 32, nos. 69, 71, 80.

[5] 'Iron', ch. 27, nos. 41-5 (bells); nos. 48, 49, 53 (locks and keys); 'Copper and Bronze', ch. 28, nos. 346-8 (bells); 354, 355 (locks and keys).

[6] 'Iron', ch. 27, no. 54.

[7] 'Pottery', ch. 23, nos. 127-9.

[8] 'Silverware', ch. 29, nos. 21, 22.

hammers which were intended for fine metalwork are of copper;[1] all the rest are of iron.[2] Of iron, too, are the agricultural and gardening implements, namely: spades, spuds and hoes, weeding-forks and sickles.[3] There is no reason to suppose that any of these tools and implements, which were in use among the artisan and labouring classes of Taxila, were of other than local Indian pattern. It is different, however, with the weapons, armour and horse-trappings. These one would naturally associate with the ruling classes, and some of them were without doubt introduced at Taxila by the foreign conquerors, but whether by Greeks, Śakas or Parthians it would be difficult to say. Thus the helmets and plate-armour for men and horses and elephants[4] were certainly foreign importations, as such defensive armour was quite unknown in early India. So, too, the horses' bits with cheek-bars of iron, horn, bone and ivory.[5] On the other hand, it is difficult to say whether the long straight double-edged swords, like the Roman *spatha*, or the shorter daggers[6] of the same shape, or any particular varieties of the spears, javelins and iron arrow-heads[7] which are found in the Śaka-Parthian city were of Indian or foreign origin. It should be noted, however, that the heavy iron javelins with four-flanged heads,[8] akin to the Roman *pilum*, and the conical and three-bladed arrow-heads[9] made their appearance for the first time during this period, and it is not unlikely, therefore, that they were introduced by the Parthians.

Religious and quasi-religious objects

Among the objects of a religious or quasi-religious character are a number of votive reliefs and statuettes of terra-cotta, stone, copper or bronze; also small ritual tanks, offerings-stands, incense-burners and amulets. Some of these mark entirely new departures. Thus we have now for the first time standard offerings-dishes and small-handled censers of earthenware[10] and some representative stone sculpture, both in the round and in relief, from the nascent Indo-Hellenistic School of Gandhāra.[11] We also see the effect of the new wave of western influence, which set in under Parthian rule, in the handsome lion-handles of some of the metal censers;[12] and in a number of small statuettes and reliefs of metal and terra-cotta, notably in the bronze statuette of the Egyptian child-god Harpocrates ('Copper and Bronze', ch. 28, no. 417), in the reliefs of Aphrodite and winged Eros (*ibid.* nos. 418, 419), in the medallion of copper repoussé showing a bust within wreath (*ibid.* no. 420) and in certain terra-cotta figurines and heads ('Terra-cottas', ch. 24, nos. 30, 46–8). On the other hand, the copper statuettes of a woman holding a staff and of

[1] 'Copper and Bronze', ch. 28, nos. 373, 374 (hammers); no. 376 (blow-pipe).

[2] 'Iron', ch. 27, nos. 104–10 (axes); nos. 115–16 (adzes); nos. 120, 121 (chisels); nos. 124–7 (knives and chopper); no. 129 (saw); nos. 131–3 (tongs, tweezers); no. 135 (scissors); nos. 137–42 (hammers and picks); nos. 145–9 (beak-irons).

[3] *Ibid.* nos. 185–90, 192–4, 197, 198 (spades, spuds and hoes); no. 201 (weeding-forks); nos. 203, 207 (sickles).

[4] *Ibid.* nos. 90–2.

[5] *Ibid.* nos. 96–100; 'Bone and Ivory', ch. 32, nos. 115–17.

[6] For swords and daggers, cf. 'Iron', ch. 27, nos. 56–8, 60–2.

[7] *Ibid.* nos. 65, 66, 68, 69 (spears and javelins); no. 77, 87 (arrow-heads).

[8] *Ibid.* nos. 65, 66.

[9] *Ibid.* nos. 87, 88.

[10] 'Pottery', ch. 23, nos. 130–2, 134.

[11] 'Stone Sculptures', ch. 36, nos. 1, 3, 5, 8–14.

[12] 'Copper and Bronze', ch. 28, nos. 321, 322.

a male deity with high head-dress ('Copper and Bronze', ch. 28, nos. 421, 422) have preserved their pure Indian character; and so, too, have the majority of the terra-cotta figurines like those of the primitive nude goddess ('Terra-cottas', ch. 24, no. 8), the standing goddess with full, flowing skirts (no. 16), and the pot-bellied *kumbhāṇḍas* (nos. 42, 42, *a*).

Model ritual tanks, which are found at Taxila as far back as the Maurya age, still continue in use—probably among the Jainas—in the first century A.D., but their shape has changed from the circular to the square, and instead of eight tiny lamps set at intervals around the rim, there are now four only—one at each corner—and midway between them four birds with outstretched wings, while on the bottom are models of eels, frogs, tortoises, etc., and in some cases a shrine and image of a primitive-looking nude goddess either at the side or in the middle of the tank (*ibid.* nos. 155–62). Finally, among objects of a quasi-religious character mention must be made of a few amulets and amulet-cases. One of the amulets, in the form of a crude bucranium, is composed of a pair of animal's teeth bound together with a strip of copper ('Bone and Ivory', ch. 32, no. 17); another is a hexagonal piece of crystal-quartz bound round with a band of copper and evidently intended to be worn round the neck; a third is similar to the foregoing but made of black basanite instead of rock crystal ('Stone Objects', ch. 25, nos. 136, 137). Four other amulets are square in shape and made of sheet-gold with a swastika on the face outlined in repoussé beading, the core being filled with lac or mastic ('Jewellery', ch. 30, nos. 85, *a–d*). Two amulet cases, which are also of gold, are cylindrical in shape with small rings for suspension (*ibid.* nos. 84, *a*, *b*).

Children's toys are of much the same character as in earlier periods, though as a general rule they are less decorative than in Maurya times. They take the form of toy carts of copper or terra-cotta ('Copper and Bronze', ch. 28, no. 391; 'Terra-cottas', ch. 24, no. 60); four-footed animals and birds, with or without wheels (*ibid.* nos. 63, 75, 76, 81, 86, 94, 95, 99, 100, 106, 107) and anthropoid or animal rattles (*ibid.* nos. 112–13). The only playthings, if playthings they are, that are peculiar to the Śaka-Parthian period, are the pieces of toy furniture—tables, bedsteads or caskets—which are described under 'Bone and Ivory Objects', ch. 32, nos. 100–4. Toys

Dice, for gaming purposes, were made commonly of bone and ivory, but the cheaper sorts of terra-cotta; they were of the same oblong shape as Indian dice have always been. No examples of cubical dice have been unearthed at Taxila or, so far as I am aware, at any other ancient Indian site. Games

The weights used by jewellers and others were based on the standard that had prevailed in India from time immemorial, and it is evident that in this small but important matter there had been no interference on the part of foreign invaders. The weights, which are spherical in shape and made of hard stone, start from an initial unit of 53 grains troy, and increase through ratios of 1, 2, 4, 8, 13, 16, 20, 32, 60, 64, 104, 110, 114, 116 and 120 up to 6,360 grains. The initial unit is thus almost identical with the weight of the silver *kārshāpaṇa* which had been current three Weights

centuries earlier throughout the Maurya empire, and identical also with one of the commonest of the weights in use three thousand years earlier at Mohenjo-daro[1] ('Stone Objects', ch. 25, Class XXVIII).

Miscellaneous objects

Other miscellaneous objects dating from the Śaka-Parthian period include a few surgical and other instruments, among which the so-called decapitators are specially worthy of notice ('Copper and Bronze', ch. 28, nos. 359-67, 369); earthenware stamps for the stamping of textiles ('Pottery', ch. 23, nos. 256, 257, 260, 261); moulds of the same material for casting forged coins ('Terra-cottas', ch. 24, nos. 149-52); and stone burnishers, touchstones, palettes and potters' *konoras* and *thatwās* ('Stone Objects', ch. 25, nos. 119-22, 125-7).

Coins

The finds made in the late Śaka-Parthian levels at Sirkap afford striking evidence of the way in which ancient Indian coins remained in circulation for generations after their authors had passed away. Out of a total of 7,665 coins recovered from all the Sirkap strata, no less than 96% come from the late Śaka-Parthian remains and include the great majority of the old punch-marked, Local Taxilan, Greek and early Śaka issues as well as the later Śaka, Parthian and Kushān ones. The distributions of these coins, according to their types and the groups in which they occur, are shown in the Stratigraphical Charts attached to chapter 38.

A feature of the later Śaka coinage that deserves particular notice is the sudden deterioration which it underwent during the reign of Azes II. For two centuries, from the coming of the Greeks to the close of Azilises' reign, the coinage of Taxila had been maintained by both Greek and Śaka rulers on a relatively high level. The decline in style and fabric which had taken place during those two centuries had, in the aggregate, no doubt been substantial, but hitherto it had been slow and gradual, and even when the Greeks were supplanted by the Śakas, there was no sudden change in the quality and style of the local coinage, the Śakas continuing to employ, not only the same skilled engravers as their predecessors but for the most part also the same designs. Under Azes II this long continuity was abruptly broken. Most of the types employed by that king were borrowed from the coins of Azilises and Azes I, but they lack the artistic stylishness and good workmanship that distinguish those of his immediate predecessors which were struck in the north-western Panjāb.[2] Indeed, so poor in quality are most of them, that the author of the *British Museum Catalogue* describes them as mere 'barbarous imitations'. Nor is this inferiority a matter only of technique and design. The currency

[1] The Mohenjo-daro weights start from a unit of 13·25 grains and increase through ratios of 1, 2, 4, 8, 16, 32, 64, 200, 300, 640, 1,600. The third in this series thus corresponds to the initial Taxila weight of 53 grains.

[2] Cf. pp. 772-3, 781 ff. Altogether, about 1,580 coins of Azes II have been recovered from Sirkap. The number is approximate only because of the uncertainty of attribution in the case of some of the more worn specimens. The commonest type is 'Mounted king and Zeus Nikephoros', represented by 1,284 specimens (1,243 from Śaka-Parthian and later strata). Another relatively common type, with 165 specimens, is 'Mounted king and Pallas'. Then come the 'Lion and Demeter' type with eighty-seven specimens, 'Demeter and Hermes' with about twenty-five, and 'Mounted king and bull' with about nine. The 'Mounted king and Demeter' type is represented by six specimens only.

was also depreciated by substituting billon or base silver for the pure metal — a disastrous policy of depreciation which was continued in an increasing measure by the Parthian Gondophares and afterwards led to the virtual abolition of a silver currency in this part of India and its eventual replacement, under the Kushān Kadphises II, by a gold one.[1] Such debasement of the currency was no new thing. It had been practised, as we have seen, in the case of the 'long bar' punch-marked coins, three centuries earlier, and lead coins had been issued by Strato in the Eastern Panjāb, but, speaking generally, the Greeks and early Śakas had been wise enough to resist the temptation of risking future credit for the sake of a momentary advantage. As to the later Śakas, the earliest ruler to adopt a lead currency seems to have been the satrap Rājuvula, whose wide-flung satrapy had brought him into close commercial contact with the great Andhra Empire, where, owing to the dearth of silver, coinages of base metal (potin and lead) had long been in use ('Coins', ch. 38, pp. 772, 775, 781–2). In Sirkap 160 of Rājuvula's coins were found, including 157 lead ones of the 'Heracles and lion' type (R.U.C. ch. 39, nos. 177–81), and it is noteworthy that five only came from the early Śaka stratum against 155 from later strata. Such stratigraphical evidence is seldom dependable, but it seems likely enough that Rājuvula's satrapy was not extended to the Western Panjāb until late in his career, and he may have been reigning two or three decades after the date commonly supposed.[2]

The 744 coins of the Parthian Gondophares from Sirkap are all copper. One only bears the name of the *strategos* Aśpavarma, while 636 bear that of the latter's nephew, Sasan. The type of the former is the usual 'Mounted king and Zeus to r.'[3] The types of the latter are: 'Mounted king and Zeus Nikephoros' (389);[4] 'Ditto and Zeus to r.' (246);[5] 'Ditto and Zeus to l.' (1).[6] The remaining coins include eighty-two 'Bust of king and Pallas',[7] twenty 'Bust of king and Nike',[8] and five 'Mounted king and Pallas'.[9]

Abdagases, 'nephew' of Gondophares, is represented by thirty-four coins, fourteen of which show the king mounted and Zeus[10] to r., seventeen the king mounted and Zeus to l.[11] and three the king's bust and Nike.[12] Of the satrap Zeionises there is, strangely enough, only one coin from Sirkap. It is of copper with the type 'Mounted king and male figure facing a mural-crowned deity'.[13]

[1] Apart from the unique silver coin published in the *B.M. Cat.* Pl. XXV, 11, the only known silver coins of an early Kushān king are those described in the 'List of Rare and Unique Coins', nos. 258–60. They may have been intended for use in the extreme west of the Kushān dominions, where a relatively good silver currency seems to have been preserved.

[2] E.g. *C.H.I.* I, pp. 575–6. On the strength of the Amohini tablet it has been inferred that Śoḍāsa succeeded his father Rājuvula as 'great satrap' some time before 17–16 B.C., but the date on the tablet is, at best, questionable.

[3] R.U.C. no. 190.

[4] *P.M. Cat.* XV, no. 20.

[5] R.U.C. no. 191.

[6] *P.M. Cat.* XV, no. 34.

[7] P.U.C. nos. 195–8.

[8] *Ibid.* nos. 192–4.

[9] *P.M. Cat.* XV, no. 38.

[10] R.U.C. no. 199.

[11] *P.M. Cat.* XV, no. 64.

[12] *Ibid.* no. 70.

[13] R.U.C. no. 200. For the date of Zeionises, see ch. 2, p. 61.

The name of Sasan also appears on some unique silver coins found with a small hoard of jewellery in Block E (pp. 160–1 *supra*). The bust on the obverse of these coins appears to be that of Pacores, the successor of Gondophares. From the same hoard came also the unique silver coins of Sapedanes, Satavastra and Kadphises discussed in chapter 2, p. 60 and chapter 38, pp. 776–7, 785–6.

An interesting sidelight on the coins of this period is afforded by the short records engraved on some of the silver vessels from Sirkap, which seem to show that the term *stater* was applied at this time (*c.* middle of first century A.D.) to the current coin of base silver or billon weighing about 148 grains, and that the value of this coin was equivalent to about 300 grains of pure silver; also that the term *drachma* had come to be applied to a coin equal in weight to a quarter of a stater, which the Greeks had called a hemidrachm.[1]

The Kushān coins comprise 2,106 of Kujūla Kadphises, 412 of Kadaphes, 24 of Kujūla Kara Kadphises, 16 of V'ima Kadphises, 12 of Soter Megas, 39 of Kanishka, 5 of Huvishka, 27 of Vāsudeva, and 4 of the later Kushāns. The presence of such large numbers of coins of Kadphises I may make it difficult to accept without question the view that Kadphises II was the first of the Kushān rulers to extend his kingdom as far east as Taxila. On the other hand, no particular significance need be attached to the relative paucity of the latter's coins, since it was probably V'ima Kadphises who transferred the city from Sirkap to the new site of Sirsukh during his father's lifetime, and, this being so, we could hardly expect to find many of his coins among the remains of the old city.

Of the copper coins of Kadphises I, 127 are of the 'Bust of Hermaeus and Heracles' type with the name of Hermaeus in Greek on the obverse,[2] and the remainder of the same type with the name of Kujūla Kadphises in place of that of Hermaeus.[3] Three silver coins with type 'Bust of king and Nike', which are probably to be attributed to Kadphises I, are discussed in chapter 38, pp. 785–6.[4] Of the Kadaphes coins, 334 are of the 'Diademed (Claudius?) head and enthroned king' type,[5] and seventy-eight of the 'Seated figure and Zeus' type.[6] All the Kujūla Kara Kadphises specimens are of one type, viz. 'Bull and Bactrian camel'.[7] The thirteen of Kadphises II are of copper and show 'King standing at altar and Śiva with bull'.[8] The twelve coins of Soter Megas are the common type, viz. 'Radiate bust of Apollo(?) and Mounted king', with Greek legend only.[9]

After the capital had been shifted to Sirsukh, part of the population must, no doubt, have continued to live on in Sirkap, just as in earlier days it had continued to live on at the Bhiṛ Mound long after the Greeks had founded their Sirkap city. This explains why a certain number of coins of Kanishka and his immediate successors, Huvishka and Vāsudeva, have also been found in Sirkap as well as

[1] Cf. 'Silver', ch. 29, pp. 609–10, and ch. 38, p. 773.
[2] R.U.C. nos. 222–4.
[3] R.U.C. nos. 225–34.
[4] *Ibid.* nos. 258–60.
[5] *Ibid.* no. 249.
[6] *Ibid.* nos. 240–8.
[7] *Ibid.* nos. 235–9.
[8] *P.M. Cat.* Pl. XVII, 36.
[9] *Ibid.* Pl. XVI, 101.

a few of the later Kushāns and some even of the medieval rulers of Kashmīr, Ohind, etc. To about the same period as Kadphises II and Soter Megas, or a little earlier, are to be referred the eleven unique coins of Vijayamitra and other rulers of Kulū, described in the 'List of Rare and Unique Coins', nos. 252–7 and p. 787 *infra*. Among the remaining coins of a later date from Sirkap are: one Indo-Sasanian; one of Queen Diddā; two of Saṅgrāma; five of Sāmantadeva; and two of Vakkadeva. The various types represented among the coins of the Kushān and later rulers are detailed in the Stratigraphical Chart at pp. 792–3 *infra* and discussed on pp. 785 ff.

Chapter 7. SIRKAP *(continued)*

MAHAL

Location and character of remains

BESIDES the extensive excavations described above in the Lower City of Sirkap, I also partly cleared an interesting block of buildings at a spot called 'Mahal', which is situated on high ground in a dip between the rocky ridges at the extreme western end of the Hathiāl spur. The word 'mahal' signifies a royal residence, and it may well be that in this case it has perpetuated a genuine tradition; for the elevated but sheltered position which the buildings occupy, with its sunny aspect and fine commanding view to the west, would have been admirably suited for a royal winter residence, and the buildings themselves are planned on a scale comparable with that of the palace in the Lower City.

Plan of excavated

The remains of this residence (Pls. 39, 40 and 41) which have so far been exposed to view, cover an area of about 310 ft. north and south by 240 ft. east and west. On its north and west sides the limits of the building are clearly defined by its surrounding wall, and owing to the proximity of the rocky outcrop on the south, it could not have extended much further in that direction. There may, however, have been other courts and subsidiary structures to the east, where the rising tongue of ground between the ridges has only been cut by a single trench running east to west (Pl. 41, *a*). As will be seen from the plan on Pl. 39, the remains comprise two complete courts (A and B) and parts of three others (G, H and J), besides some outlying structures at the north-east corner. The open courts are spacious, measuring between 50 and 60 ft. each way, and the principal rooms encompassing them are as large as those in the royal palace, the three largest, for example, in Courts A and B, measuring respectively 36 × 33 ft., 34 × 23 ft., and 40 × 23 ft. In the regularity of its planning also this residence exhibits a resemblance to the palace buildings in Blocks K and K′, and an equally marked contrast with the rest of the houses in the Lower City. As to the planning, however, it is to be observed that the alignment of the walls in Court A is less regular than in Court B, and it is not unlikely that Court A and the group of structures to the south of it between Courts H and J were subsequent additions. Yet another feature which suggests a link between this residence and the royal palace is the presence of well-defined doorways to the majority of the chambers on the ground-level. For reasons that have already been explained such doorways are rarely to be found in any of the late Śaka buildings, except the royal palace, in Sirkap.

Date of building and its destruction

That the Mahal residence was in occupation during the first century A.D. and, therefore, contemporary with the royal palace is clear not only from the character of its masonry, which was of the rubble variety repaired here and there (no doubt after the great earthquake) with rough diaper (Pl. 41, *c*, *d*), but also from the

character of the minor finds made in it, the bulk of which show a close correspondence with those from houses in the Śaka-Parthian stratum in the Lower City. Among these minor finds the most interesting was a group of more than sixty metal vessels and other articles which had been hidden and built up in a recess of the wall between the two small chambers, D 7 and D 8, at the south-west corner of Court B (square 63·84′). A photo of this group in process of being excavated is shown in Pl. 41, *b*. The articles comprised in it were as follows:

Group of vessels and other objects

1. Perfume holder of polished agate ('Stone Objects', ch. 25, no. 153).

2–20. Nineteen circular mirrors, one with bone handle complete. (For selected specimens, cf. 'Copper and Bronze Objects', ch. 28, nos. 209, 210, 211, *f*, and 'Bone and Ivory Objects', ch. 32, no. 46.)

21. Handled jug of Hellenistic pattern ('Copper and Bronze', no. 262).

22–35. Fourteen standard beakers (*ibid.* nos. 269, 270, 273).

36–42. Seven open bowls (*ibid.* no. 279).

43. Covered bowl, with lid surmounted by finial (*ibid.* no. 288).

44–7. Four saucers, one with beaded border (*ibid.* nos. 274, 297).

48–57. Ten ladles, one bearing an inscription (*ibid.* no. 307).

58. Double spoon (*ibid.* no. 316).

59. *Haṇḍī*-shaped vessel with flat base (*ibid.* no. 329).

60. 'Decapitator', so called (*ibid.* no. 360, *b*).

61. Shield-boss (*ibid.* no. 389).

62. Conical Assyrian seal of pale onyx, with engraving of worshipper in Assyrian costume in front of 'Scorpion-god' ('Seals', ch. 34, no. 1).

63. Hemispherical bowl of iron ('Iron Objects', ch. 27, no. 8).

Inscription on copper ladle: the Uttarārāma monastery

The inscription on the copper ladle no. 307 records that it was 'the gift of Īśvaraka to the "Congregation of the Four quarters" in the Uttarārāma of Takshaśilā, for the acceptance of the Kāśyapīyas'. This inscription raises an interesting point in connexion with the Mahal building. Prof. Konow, who has edited the record in the *Corpus* (*C.I.I.* II, pp. 87–8) takes 'Uttarārāma' to mean the 'Northern-ārāma', which, he says, was 'evidently situated to the north of Sirkap'. In this he may be right. That is to say, the *saṅghārāma* referred to may have been situated at Jaṇḍiāl or anywhere in the open country immediately to the north of the Sirkap city. But it is also possible that the *saṅghārāma* in question was not at Taxila at all, but somewhere much further afield, though belonging to Taxila. Indeed, it may be identical with the monastery of the Kāśyapīyas in the district of Uraśā, which is referred to in the Bedadi ladle inscription (*C.I.I.* II, pp. 88–9); for Bedadi is less than 60 miles as the crow flies north of Taxila, and there is every likelihood that when the Kushāns were advancing southwards towards Taxila the monks of any outlying monasteries, such as that at Bedadi, which lay in the path of the invaders, would flee for safety to the capital city, taking whatever valuables they could with them, and when the enemy eventually appeared at the gates of the city itself, would hide their valuables in the safest place they could find. Be this, however, as it may, the one thing that is certain is that the Mahal building in which these interesting articles were found was not the 'Northern *saṅghārāma*' referred to in this inscription.

Other minor antiquities

Besides the foregoing hidden treasure, several small objects were found scattered here and there in the debris. These included:

Pottery. Ch. 23, no. 113 (two-handled baking-pan); no. 132 (standard censer or offerings-stand); no. 221 (amphora of local red-and-black ware).

Stone Objects. Ch. 25, no. 51 (small bowl of purple-grey steatite); no. 104, *b* (casket of grey schist); no. 114 (bowl-shaped lamp of green steatite).

Bone and Ivory. Ch. 32, no. 118 (bone cheek-bar for horse's bridle).

From the long trench to the east of the main block (Pl. 41, *a*) there also came an oval malachite seal engraved with a standing human figure, of rough execution (Ml. '25–180; Tr. A, 6 ft. below surface).

Coins. Of coins there were forty-three specimens, viz. eight Local Taxilan, one Hermaeus, two Maues, seventeen Azes I, three Azes II, one Rājuvula, three Gondophares, six Kadphises I, one Huvishka, one Spalapati. Among them were four small groups, viz.: (*a*) two Azes I ('King seated cross-legged and Hermes'), from square 41·111′, 2 ft. below surface (Ml. '25–13); (*b*) one Azes I (as above) and one Kadphises I ('Bust of Hermaeus and Heracles'), from square 43·111′, 1 ft. below surface (Ml. '25–74); (*c*) two Azes I ('Humped bull and lion') and one Azes I ('Elephant and bull to r.'), from square 34·109′, 3 ft. below surface (Ml. '25–134); (*d*) one Azes I (as in (*a*) above) and one Local Taxilan ('Lion and swastika and blank'), from square 53·83′, 3 ft. below surface (Ml. '25–196).

Beads. The beads numbered eighty-five, as shown in the table below. Twenty-seven of them were found in nine small groups, but there is no advantage in specifying the particular contents of each group.

TABLE OF BEADS FROM THE MAHAL SITE

Shape	Agate	Carnelian	Carnelian etched	Chalcedony	Garnet	Jasper	Lapis-lazuli	Crystal	Shell	Faience	Glass, colourless	Glass, yellow opaque	Glass, blue	Total
Spherical	—	6	1	—	—	1	—	—	3	—	2	—	3	16
Oblate	—	—	—	—	1	—	—	—	1	—	2	—	—	4
Barrel, standard	2	—	—	—	—	—	—	1	1	—	2	—	—	6
Barrel, long	—	—	1	—	—	—	—	—	—	—	—	—	—	1
Barrel, triangular	—	2	—	—	—	—	—	—	—	—	—	—	—	2
Barrel, pentagonal	1	—	—	—	—	—	—	—	—	—	—	—	—	1
Barrel, faceted	—	—	—	1	—	—	—	—	—	—	—	—	—	1
Domical	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Scaraboid	—	—	—	—	—	—	—	—	—	—	1	—	—	1
Disk	—	—	—	—	—	—	—	1	5	—	—	28	—	34
Cylindrical, standard	—	—	—	—	—	—	1	—	—	—	—	—	—	1
Cylindrical, hexagonal	—	—	—	—	—	—	—	1	—	—	—	—	—	1
Cube, cornerless	—	—	—	—	—	—	—	—	1	3	1	—	—	5
Faceted	—	1	—	—	—	—	—	—	—	—	—	—	—	1
Gadrooned	—	—	—	—	—	—	—	—	1	—	1	—	—	2
Segmented	—	—	—	—	—	—	—	—	—	—	1	—	1	2
Toggle	—	1	—	—	—	—	—	—	—	—	—	—	—	1
Pendant, drop	—	—	—	—	—	—	—	—	2	—	—	—	—	2
Pendant, tortoise-shaped	—	—	—	—	—	—	—	—	—	1	—	—	—	1
Irregular and nondescript	—	—	—	—	—	—	—	—	1	—	—	—	—	1
Natural	—	—	—	—	—		—	—	1	—	—	—	—	1
Total	3	10	2	1	1	1	1	3	16	4	10	28	5	85

Chapter 8. SIRSUKH

WHEN the Kushān invaders decided to abandon the city of Sirkap and build a new one in its place, they selected a site on the further side of the Luṇḍī nālā, about a mile north-north-east from the northern wall of Sirkap. What their reasons were for abandoning the existing city can only be surmised. Possibly it was an accepted tradition and a matter of prestige with them, as it was in after days with the Moslem conquerors of Delhi, to signalise their conquest of the country by founding a new capital city. Or it may be that they mistrusted the defences of the Sirkap city, which, following Hellenistic practice, took in a certain area of the rocky Hathiāl spur and were to some extent commanded from high ground outside the walls. But another and perhaps more potent reason may have been that shortly before their arrival the Sirkap city had been visited by a deadly plague which wiped out half the inhabitants, and that only two or three decades earlier it had been laid in ruins by a devastating earthquake, the effects of which were no doubt still only too apparent. The Kushāns, therefore, would have had the best of reasons for regarding the existing city as at once pestilential and dangerous and for choosing a more salubrious site in the open valley to the north. Reasons for transferring city from Sirkap

The new city, now known as Sirsukh, is a slightly irregular rectangle, measuring nearly 1,500 yards along its northern and southern sides and 1,100 along its eastern and western. On the south and west a considerable area outside the city's walls is enclosed in a bend of the Luṇḍī nālā, and the natural protection to this suburb which the stream afforded was further augmented by a crescent-shaped line of mounds, now called Treḍi Ghāṛ, which stood in much the same relation to Sirsukh as the line of Kacchā Koṭ mounds did to Sirkap, the suburb thus roughly defended being probably intended in both cases for the temporary use of caravans, cattle, etc. which could not enter the city, rather than for permanent habitations, though it may also have been occupied by low-caste people, lepers, etc. Lay-out of new city

On the south and east sides of the city the mounds which cover the ruins of the ancient ramparts still rise clear to view above the surrounding fields, but the northern and western walls have almost entirely disappeared, and on these two sides it is only with difficulty that their alignment can now be traced. Of the fortifications on the east a short length was excavated near the south-east corner of the city, where the height of the mounds gave promise of the buried remains being better preserved than in other parts of the site. The character of these fortifications will be readily understood from the plan, elevation and section shown on Pl. 42, *a* and from the general view on Pl. 43, *a*. The wall, which is constructed of rough rubble faced with neatly fitting limestone masonry of the heavy diaper type (cf. Pl. 55) is 18 ft. 6 in. in thickness, and is provided at the base, on its outer face, with The city walls and their excavation

a heavy roll plinth, which was added after the wall itself had been completed, in order at once to strengthen its foundations and prevent undermining. Along the outer curtain of the wall and separated from each other by intervals of about 90 ft. are semicircular bastions, access to the interior of which is provided by a narrow passage carried through the thickness of the wall. Both the bastions and the wall itself were furnished with loopholes, which are placed immediately above the plinth referred to at a height of rather less than 5 ft. above the old floor-level. In the bastions, these loopholes are splayed slightly towards the outside and are closed on the outer face of the wall with triangular tops, which give them a singularly western appearance. Beneath them, inside the bastions, is a horizontal chase in the wall, now filled with earth, which marks where timbers were once let into the masonry. Still lower down—on a level with the old floor and opposite the entrance of the bastion—there is, in some of them, a small aperture, about 1 ft. 8 in. high and 7 in. wide, which no doubt served the purpose of a drain. The floors of the bastions were composed of lime concrete containing a large admixture of river sand. The foundations both of the wall proper and of the bastions descend about 2 ft. 6 in. below floor-level and are provided on the inside with a single footing about 6 in. wide.

Fortifications compared with those of Sirkap

Comparing these Sirsukh fortifications with those of Sirkap, we observe that there are several essential differences between them. In the first place, the Sirsukh walls are faced with the heavy diaper masonry which was characteristic of the Parthian and early Kushān periods instead of the coursed rubble masonry characteristic of the Greek and Śaka periods. Secondly, they are pierced with loopholes for the use of defenders standing on the ground-floor. Thirdly, their bastions are semicircular in plan instead of rectangular, and on the ground-floor are hollow within instead of solid. In the case both of Sirkap and of Sirsukh it may, of course, be taken for granted that the bastions were divided, like the bastions of later Indian fortresses, into two or more stories, and that the upper stories were invariably hollow. In both cases, too, it may be taken for granted that the wall was loopholed and provided with a berm or gallery on the inside at first-floor level, and with an open terrace and battlements at the top.

Date of foundation

Whether the features noticed above and the rectangular plan of the city were characteristic of Kushān cities in general we have not sufficient data, either monumental or literary, to determine; but the fact that the Kushāns came from a part of Asia where the rectangular plan became traditional, suggests that they were in all likelihood responsible for introducing it into this part of India. In my first account of Sirsukh[1] (published in 1916) I expressed the view that these fortifications were probably built in the reign of Kanishka. Various fresh facts, however, which have come to light since then, particularly in connexion with the history of local stonework, point to the conclusion that the fortifications were anterior to Kanishka and more likely to have been built by V'ima Kadphises.

Minor finds from fortifications

The minor finds from the fortifications of Sirsukh were very few and of little interest. Among them were a bone mirror-handle decorated with raised bands

[1] *A.S.R.* (1915–16), p. 19.

and hatchings (*A.S.R.* (1915–16), Pl. xv, *n*) and the following coins: one Azes II, three Kadphises I, three debased Indo-Sasanian (cf. R.U.C. ch. 39, nos. 342 *sqq.*) and fifty-nine of Akbar the Great—all of copper.

Difficulties of digging inside Sirsukh

In the interior of Sirsukh conditions are less favourable for digging than in Sirkap; for, on the one hand, nearly all the area enclosed within the walls is low-lying and abundantly irrigated, with the result that the ancient remains are buried deeper beneath the alluvial soil than in Sirkap; on the other, the few mounds—notably Piṇḍ Gākhrā and the two called Piṇḍorā—which stand out among the cultivated fields and which may be expected to cover remains of some importance, are now occupied by graves, *ziārats* or modern villages, and while any disturbance of the graves or *ziārats* is of course out of the question, the removal of the modern villages could only be effected at an inordinate cost.

Excavation near Piṇḍorā mounds

The only spot inside the city where some excavation has been done lies between the more northerly of the two 'Piṇḍorā' mounds and the north-western half of the village of Tofkiāñ. It was in one of the mounds near this village that the famous copper-plate inscription of the year 78 was believed by Cunningham to have been found. But he was in some doubt on the point, since the actual finder of the plate—a bhishti named Nur—assured him that it came from one of the mounds at Jaṇḍiāl, while the bhishti's wife said that it came from one of the mounds near Gāñgu. Taking everything into consideration, it seems more likely that the find was made in one of the stūpas near Jaṇḍiāl or Gāñgu than in the interior of Sirsukh. The point is one which can only be settled when the mounds as well as the lower ground near Tofkiāñ have been examined; for it is possible that one or other of these mounds covers the ruins of some edifice of early Śaka date which had been standing for five or six generations before the Sirsukh city encompassed it.

Remains disclosed

My own very limited excavation disclosed the presence of a large building which, when fully cleared, may prove to be of some interest (Pls. 42, *b* and 43, *b*). The remains comprise parts of two courts with attached chambers, a larger one (B) to the west and a smaller one (A) to the east, with a passage and a row of chambers between them. As to the plan and extent of the building, all that can be said at present is that the principle on which it is designed, namely, the principle of the open court flanked or encompassed by rows of chambers, is the immemorial one found at all periods in remains at Taxila; and that, to judge by the dimensions and structural character of the portions already exposed, the whole is likely to prove a building of considerable size.

The foundations of the walls are limestone rubble, resembling that commonly found in the earlier buildings in Sirkap, but above ground-level the walls are faced with the strong semi-ashlar masonry which first came into fashion in the second century A.D. and of which numberless examples can be seen among the Buddhist remains at Taxila dating from the second to the fifth century (cf. pp. 260–1 and Pl. 55). The wall stretching across the north side of court A appears to be the foundation of a raised plinth, which probably supported a pillared veranda, and the small chamber (*b*36) enclosed in heavy walls at the south-west corner of the same court may be surmised to have served as a strong room. In the chambers C34 and

Minor finds from Pindorā-Tofkiāṅ site

D33, on the west side of court A, were found three large earthenware jars, two in the former and one in the latter, of the type usually employed for the storage of grain, oil and water (cf. 'Pottery', ch. 23, Pl. 121, no. 3).

Among other minor finds recovered from this site were:

Pottery. Ch. 23, no. 78 (handled jug; Pl. 123, no. 78 and Pl. 129, *l*). Also several vessels, including a cup, bowl, lamp and four miniature vases, which are not included in the chapter on 'Pottery' (ch. 23) but are described in detail in *A.S.R.* (1915-16), p. 22, nos. 12-18, and illustrated in Pl. XV, *c*, *d* and *f-j* of the same report.

Stone Objects. Ch. 25, no. 128 (*thatwā* of hornblende gneiss; Pl. 146); no. 133 (*āyāgapaṭā* tablet of claystone; Pl. 146, cf. *A.S.R.* (1915-16), Pl. XVI, *g*). Also a serpentine bracket of grey schist stone, with Corinthian cap and crudely executed relief of half-length male figure. Length 12·5 in. (*Ibid.* p. 22, no. 6 and Pl. XV, *e*.)

Iron. Ch. 27, no. 16 (circular frying-pan with single handle; Pl. 162, *m*). Also an iron *kauncha* for making sweetmeats. Length 3·75 in. (*Ibid.* no. 5.)

Copper. Bowl, 9·25 in. diam. with four nails at rim for attachment of two handles, and hairpin with knobbed head, 5 in. long. (*Ibid.* nos. 2, 3.)

Bone. Two writing stili, 3·75 and 3·37 in. long respectively, and a bone playing-die, 1·75 in. long. (*Ibid.* nos. 8, 9.)

Shell. Ch. 33, nos. 25, 34, 40. Three bangles.

Finger-rings. Ch. 31, no. 63, of white shell with floral pattern (Pl. 209, *c*); no. 74, oval intaglio of carnelian for finger-ring with engraving of Nike (Pl. 207, no. 9).

Beads. The beads from this site numbered fifty-seven and comprised specimens of agate, carnelian, jasper, lapis-lazuli, crystal, shell, faience, glass and pearl, as shown in the following table:

BEADS FROM PINDORĀ-TOFKIĀṄ IN SIRSUKH

Shape	Agate	Carnelian	Jasper	Lapis-lazuli	Crystal quartz	Shell	Faience	Glass. colourless	Glass, blue	Glass, black and red	Pearl	Total
Spherical	1	8	—	—	—	4	—	—	—	1	—	14
Oblate	—	—	—	—	—	—	2	—	—	—	—	2
Barrel, standard	4	1	2	—	—	—	—	2	—	—	—	9
Barrel, long	—	1	—	1	—	—	—	1	—	—	—	3
Domical	—	1	—	—	—	—	—	—	—	—	—	1
Cylindrical	1	—	—	—	1	—	—	—	—	—	—	2
Cylindrical, square	—	—	—	—	—	1	—	—	—	—	—	1
Disk	1	—	—	2	—	4	—	—	—	—	—	7
Cube	—	—	—	—	—	1	—	—	—	—	—	1
Tabular	—	—	—	—	1	1	—	1	—	—	—	3
Wedge-shaped	—	—	—	—	—	1	—	—	—	—	—	1
Gadrooned	—	—	—	—	—	—	3	1	—	—	—	4
Segmented	—	—	—	—	—	—	—	—	1	—	—	1
Spacer	—	—	—	—	—	2	—	—	—	—	—	2
Pendant, bird-shaped	—	—	—	—	—	2	—	—	—	—	—	2
Irregular	—	—	—	—	—	2	—	—	—	—	—	2
Natural	—	—	—	—	—	—	—	—	—	—	2	2
Total	7	11	2	3	2	18	5	5	1	1	2	57

Coins. Considering the smallness of the area excavated, coins were relatively numerous. The forty specimens recovered were all of copper and comprised the following issues:

One Local Taxilan ('Chaitya with crescent and taurine'); one Azes I ('Elephant and bull'); three Kadphises I ('Bust of Hermaeus and Heracles'); one Kara Kadphises ('Bull and Bactrian camel'); three Kadphises II ('King at altar and Śiva with bull'); twelve Kanishka (one Metal-god, one Moon-god, three Nanaia, one four-armed Śiva, six Sun-god); one Huvishka ('King on elephant and Sun-god'); eleven Vasudeva (eight 'Śiva and bull', three 'Seated goddess'); six Later Kushān ('King at altar' and defaced); one Spalapati ('Recumbent bull and king on horseback').

The above antiquities, which were found at depths between 1 and 6 ft. from the surface, afford no more evidence than the semi-ashlar masonry as to the date of the edifice. The most that can be said is that it was probably built in the late second or third century A.D. and continued in use for two or three centuries afterwards.

Chapter 9. TEMPLE OF JAṆḌIĀL

Position of temple

THE TEMPLE of Jaṇḍiāl is one of the most interesting monuments unearthed at Taxila. It occupies a commanding position on an artificial mound (Jaṇḍiāl C) some 700 yards north of the north gateway of the Sirkap city and 250 yards outside the Babar Khāna suburb. A stone's throw to the west of it is a second mound (Jaṇḍiāl D) and between the two ran, in all probability, the ancient road to the Indus and Gandhāra. The eastern of the two mounds, which then rose to a height of some 45 ft. above the surrounding fields,[1] was superficially examined by Cunningham in 1863–4 and at a depth of 7 or 8 ft. from the top some walls of a large building were brought to light, which he surmised to be an ancient temple. Cunningham was quite correct in believing that the ruins of a temple lay buried in this mound, but the walls which he unearthed belonged actually to a roughly built structure of the medieval period, and the temple described below, which he failed to reach, was 8 or 9 ft. deeper still. Before it could be laid bare the walls exposed by Cunningham, which were in a fragmentary state, had to be completely removed.

Buried beneath building of medieval date

Resemblance to Greek peripteral temple

The temple, which faces south towards the city's gateway, is of imposing proportions. Its length, including the projection in front of its portico, is 158 ft., and, excluding the peristyle, a little over 100 ft.; its width is 85 ft. (Pl. 44). Its plan is unlike that of any temple known to us in India, but its resemblance to the classical temples of Greece is striking. In Greece the ordinary peripteral temple is surrounded on all sides by a peristyle of columns and contains a *pronaos* or front porch, a *naos* or sanctuary, and, at the rear, an *opisthodomos* or back porch, known to the Romans as the *posticum*. In some large temples, such as the Parthenon at Athens and the Temple of Artemis at Ephesus, there was an extra chamber between the sanctuary and the back porch, which in the case of the Parthenon was called the 'Parthenon' or chamber of the virgin goddess Athene. In the temple at Jaṇḍiāl the plan is almost identically the same. In place of the usual peristyle of columns is a wall pierced at frequent intervals by large windows which admitted ample light to the interior, but at the front entrance to the temple are two Ionic columns *in antis*, i.e. between pilasters which supported the ends of the architraves passing above them. Corresponding to them on the inner side of a spacious vestibule is another pair of similar columns *in antis*. Then comes, just as in Greek temples, the *pronaos* leading through a wide doorway to the *naos*, while at the back of the temple is another chamber corresponding to the *opisthodomos*. The only essential difference in plan between this and a Greek temple is that, instead of an extra chamber between the *opisthodomos* and *naos*, we have at Jaṇḍiāl a solid mass of masonry, the foundations of which are carried down over 20 ft. below the temple

[1] For illustration, cf. *A.S.R.* (1912–13), Pl. XXXIV, *a*.

floor. From the great depth of these foundations it may safely be inferred that this mass of masonry was intended to carry a heavy superstructure, which apparently rose in the form of a tower considerably higher than the rest of the building. Access to this tower was provided by flights of broad steps ascending from the *opisthodomos* at the rear of the temple and laid parallel with the sides of the edifice. Two of these flights still exist, and it may be assumed that there were at least three more flights above them, narrowing in width as they ascended above the roof of the *naos*. The altitude of this tower may be surmised to have been about 40 ft. At the back of the temple there were no free standing columns, but only rectangular and semicircular pilasters built of the same limestone masonry as the adjoining walls and crowned perhaps, though this is not certain, with sandstone capitals (*A.S.R.* 1912–13, Pl. xxxv, *d*).

Structural features

The inner walls of the temple, when excavated, were standing to an average height of between 9 and 10 ft. Like the fortifications of Sirkap, the walls throughout are built of 'coursed rubble' masonry and are carried on massive foundations descending to a depth of 9 or 10 ft. below the floor-level. In the case of the inner wall the foundations project from 6 in. to 2 ft. beyond the face of the wall, but in the case of the outer walls as much as 5 ft. beyond their inner face.

The masonry for the most part is limestone, but the mouldings at the base of the walls and the cornices are of kañjūr. The mouldings in question run completely round the outside of both the outer and the inner walls and round the interior of the *naos*. They are of the ordinary Greek cyma recta pattern (Pl. 44, *b*). The cornice which runs round the top of the dado in the *naos* (at a height of 6 ft. from the floor) is a plain cavetto. Both faces of the walls as well as window openings and kañjūr mouldings were covered with a thick coating of stucco composed of small river gravel and lime. Patches of this stucco can still be seen adhering at various points.

Ionic columns

The Ionic columns and pilasters are composed of massive blocks of grey Tarakī or Kambiāl sandstone,[1] the bases, shafts and capitals being built up in separate drums fixed together with square dowels let in the centre, as was also the practice in Greek buildings. In the construction of columns in Greek temples it is well known that a superfine joint was obtained by grinding down each successive drum in its bed. In the case of the Jaṇḍiāl temple the same process seems to have been followed, the beds of the drums being roughly chiselled at the centre and a raised draft left at the edge, which was subsequently ground down. The base mouldings of these columns are not of very subtle outline, but their capitals with their 'egg and dart' and 'reel and bead' mouldings are of quite a pleasing form (Pl. 44, *b*). In several of the column and pilaster bases fractures were caused in ancient days, probably by the same earthquake which overthrew so many buildings in Sirkap and at the Dharmarājikā Stūpa, and these fractures were repaired by cutting back the broken stones to a straight edge and dowelling on to them separate pieces of stone by means of iron pins.

[1] See ch. 25, p. 479.

Interior of *naos*

The wall mouldings in the *naos* referred to above extend round the foot of all four walls, and it is clear from their existence along the north wall that, originally, this wall must have stood free down to its base. At some subsequent date, however, a platform about 3 ft. 6 in. high and 8 ft. 2 in. wide was added on this side of the chamber. The door leading from the *pronaos* to the *naos* appears to have been of wood bound with iron, many fragments of which were found in the charred debris strewn over the floor. The jambs or *chaukats* of the door frame were not sunk in the stonework, but only embedded in the thick plaster with which the face of the stonework was coated. This, as we shall see, was a usual practice in later buildings at Taxila.

Entablature and roof

As to the superstructure of the temple, the architrave, frieze and cornice appear to have been of wood and were, no doubt, of the Ionic order, in keeping with the Ionic style of the columns, pilasters and mouldings. The roof, too, was largely of wood, and flat, not of the ridge type usual in Greek temples. Had it been sloping, tiles or metal plates must have been used to cover it, and some fragments of them would inevitably have been preserved amid the fallen debris. But all that was found on the floor of the temple was charred beams of wood, hinges, nails and other bits of iron and a thick layer of half-burnt clay mixed with masses of plaster and charcoal. I conclude, therefore, that the roof was flat, like the roofs of most early buildings in the Orient, and protected by half a foot of clay spread over the timbers.

Minor antiquities from Jandiāl temple

The few minor antiquities found on this site are noted below. Two only of them —a Local Taxilan coin and a domical bead of turquoise—were found in trenches sunk below the floor-level of the temple. The rest came from the deep accumulation of debris covering the ruins, into which they must have found their way at some time subsequent to the destruction of the temple but before the later building discovered by Cunningham was erected.

Pottery. Ch. 23, no. 124 (colander bowl); no. 255 (mould for lion mask); no. 263 (stamp); no. 270 (toy hut of appliqué ware).

Terra-cottas. Ch. 24, no. 45 (draped female figurine); no. 89 (head of toy horse); nos. 117 and 118 (toy rattles); no. 187 (head and bust of strikingly fine modelling).

Stone Objects. Ch. 25, no. 59, *a* (unguent bottle); no. 123 (claystone palette); no. 155 (circular stand of green jasper).

Shell. Ch. 33 no. 41 (bangle).

Stone Sculptures. Ch. 36, no. 154 (stone slab with footprint).

Beads. Eighteen in number of the shapes and materials shown below:

Shape	Agate	Car-nelian	Lapis-lazuli	Shell	Glass, colour-less	Glass, blue opaque	Glass, red opaque	Tur-quoise	Total
Spherical	—	4	1	3	1	—	—	—	9
Oblate	—	—	—	2	—	—	—	—	2
Barrel, standard	2	—	—	—	—	—	—	—	2
Barrel, long	—	—	—	—	—	—	1	—	1
Barrel, triangular	—	1	—	—	—	—	—	—	1
Cylinder	—	—	—	1	—	—	—	—	1
Domical	—	—	—	—	—	—	—	1	1
Segmented	—	—	—	—	—	1	—	—	1
Total	2	5	1	6	1	1	1	1	18

Coins. One Local Taxilan ('Lion and blank); three Azes I ('King seated and Hermes'); four Azes II ('King on horseback and Zeus Nikephoros'); four Soter Megas ('Bust of king and horseman'); three Kadphises I ('Bust of king and Heracles'); three Kadphises II ('King at altar and Śiva with bull'); five Kanishka (two Sun-god, one Moon-god, one Metal-god, one four-armed Śiva); two Huvishka ('King on elephant and deity'); four Vāsudeva ('King at altar and Śiva with bull'); one Sāmantadeva ('Horseman and bull'); one Harsha of Kashmīr ('Goddess and king').

Date of temple

The date of the Jaṇḍiāl temple is still open to question. The strikingly Greek character of its plan and the design of its Ionic pillars suggest that it was erected under the rule of the Bactrian Greek kings who built and occupied the Sirkap city during the second century B.C. On the other hand, consideration must be given to the evidence afforded by another shrine in the village of Mohṛā Maliārāñ about 1,000 yards distant from Jaṇḍiāl, which was adorned with precisely similar, though smaller, Ionic pillars and which appears from Cunningham's description of it (all remains of the shrine itself having completely disappeared) to have been approximately contemporary with the Jaṇḍiāl temple.[1] In this shrine at Mohṛā Maliārāñ Cunningham unearthed what he took to be a foundation deposit consisting of '12 coins of Azes' buried just beneath the front edge of one of the column bases in the inner sanctum; and he concluded accordingly that the shrine was built in the reign of Azes, but whether Azes I or Azes II he does not say, and in the absence of any description of the coins, it is impossible to identify them. If Cunningham's conclusion is right, then it is more than likely that the temple at Jaṇḍiāl is also to be referred to the same reign, though it is natural to suppose that it was the earlier of the two and served as a model, in the matter of its decorative features, for the smaller and less important shrine at Mohṛā Maliārāñ, rather than vice versa. One is bound to confess, however, that the evidence of this coin-find is very flimsy. Had the coins been intended as a foundation deposit, we should have expected to find not more than one or two of them, and to find them, moreover, not just beneath the edge of the column base, but well under it and nearer to its centre. It looks, indeed, as if this *rouleau* of coins was nothing more than an ordinary 'hidden treasure', for which its owner, possibly a priest, had scooped out a convenient little hole under the edge of the column base, which he may equally well have done one or a hundred years after the building of the shrine. Although, however, no weight can be attached to the evidence of these coins, I still incline to the view that both the Jaṇḍiāl temple and the Mohṛā Maliārāñ shrine were erected under the Śakas in the first century B.C. rather than under the Greeks in the second century B.C., though, as I started by saying, the point is still a debatable one.[2]

Its religious character

To what faith was this unique temple dedicated? That also is a question that cannot be answered with certainty. That it was not Buddhist seems patent from the total absence of any Buddhist images or other characteristic relics among the ruins, as well as from its unusual plan, which is unlike that of any Buddhist monument known to us. For similar reasons, also, we must rule out the idea that

[1] For a brief description of this shrine, see pp. 7–10 *supra*. [2] See further p. 229 *infra*.

it was Brāhmanical or Jaina. On the other hand, the solid tower, which, I infer, stood in the middle of the building behind the *naos*, is significant. My own view is that this tower was in the nature of a *zikurrat*, tapering like a pyramid and ascended in the same way as the *zikurrats* of Mesopotamia; and I conclude from its presence, as well as from the entire absence of images, that the temple was probably Zoroastrian. If this was so, the fire altar may have stood on the summit of the tower. The altar itself was probably constructed of large bricks laid in mud; for a number of such bricks were found lying on the stone staircase leading up to the tower, as if they had fallen from the top when the tower was destroyed. The Persians, we know, set their fire altars in high places and raised on lofty substructures. We know, too, that the idea of the Assyrian *zikurrat* was familiar to the Persians, and there is nothing more likely than that they adopted its design for some of their fire temples. Indeed, the well-known *zikurrat* tower at Firuzabad has been thought by some authorities actually to be a fire altar. A different view of the tower's purpose was taken by the late Dr J. J. Modi, the eminent Parsi scholar, who doubted whether, amid the cosmopolitan surroundings at Taxila, the sacred fire altar could possibly have been exposed to view on its summit. He opined that the altar stood in the inner sanctuary or *naos*, with the dais at its side from which the priests would feed it,[1] while the tower, he thought, was used by the faithful when they offered prayers to the sun and moon and to whatever else might lead their thoughts to nature's God.[2]

The conclusions drawn above about the date and religious character of this temple are necessarily connected. That the temple was one of national importance and representative of the state religion at the time of its erection, is made virtually certain by its impressive size and by the commanding position it occupies opposite the principal gateway of the city. As already indicated (p. 57, n. 4), it may have been erected by the Parthian Emperor Vonones (*c.* 54–45 B.C.), but there is nothing inherently improbable in its attribution to Azes I or another of the Śaka rulers. Of the religion of the Śakas we know little. In India many of them became converts to Buddhism or Jainism, but there can be no doubt that in the course of their long and intimate association with Iran—an association which went back to the days before Darius—the Śakas must have become deeply infected by Iranian beliefs; and nothing is more likely than that, at the time this temple was founded, they still regarded Zoroastrianism or Magianism as their state religion. If, on the other hand, the temple was founded, as I do not deny it may have been, by the

[1] *Times of India*, 12 August 1915.

[2] In a personal letter to me dated 7 February 1937, Prof. M. Rostovtzeff accepted my former view that this temple dated from Parthian times and suggested comparisons with the two temples at Uruk and another Parthian temple of Seleucia then recently excavated by Prof. C. Hopkins. Prof. Rostovtzeff doubts the existence of a tower projecting above the roof of the Jaṇḍiāl temple. He thinks that the staircase led only to a flat roof, as in the temple of Palmyra, and that on the roof stood 'a Fire Temple of the usual plan with a stepped altar inside it'. The platform or *podium* in the *cella* of the temple he compares with the *podium* in the *cella* of the temple of Adonis at Dura and opines that it was used for seated or reclining statues of gods, which were very popular with the Parthians.

Bactrian Greeks, it could hardly have failed to be dedicated to one or the other of the Greek deities, whose images are so profusely figured on Graeco-Bactrian and Graeco-Indian coins. But in that case we have to face the difficulty of explaining the presence of the tower, or at least of the solid basement and deep foundations between the *naos* and *opisthodomos*, which seem to presuppose the construction of a tower. This feature is not found in any Greek temple known to us, and we can hardly suppose that it would have been introduced here except for some specific cultual purpose unknown to Greek religion.

Description in Philostratus

It seems not unlikely that this is the temple described by Philostratus in his *Life of Apollonius*, in which he and his companion Damis awaited the permission of the king to enter the city. 'They saw', he says, 'a temple in front of the wall, about 100 ft. in length and built of shell-like stone. And in it was a shrine which, considering that the temple was so large and provided with a peristyle, was disproportionately small but nevertheless worthy of admiration; for nailed to each of its walls were bronze panels on which were portrayed the deeds of Porus and Alexander; the elephants, horses, soldiers, helmets and shields are depicted in brass, silver, gold and copper, the lances, javelins and swords all in iron.'[1] The words 'in front of the wall' correctly define the position of the Jaṇḍiāl temple, and travellers coming from the Indus would naturally have waited outside the north gate of the city. The description, too, of the *naos* as disproportionately small is significant; for this is a specially noticeable feature of the Jaṇḍiāl temple. On the other hand, unless we exclude the peristyle, the temple is considerably more than 100 ft. long. The words λίθου κογχυλιάτου I take to mean, not 'of porphyry' as translated by Conybeare, but 'of stone covered with stucco', powdered shell having been used in India from time immemorial for the making of fine stucco. As to the picture panels on the walls of the sanctum, there is nothing inherently impossible in Philostratus's account. Works of art handed down from bygone ages were commonly preserved in Greek temples, and the practice may well have been followed at Jaṇḍiāl. No example of early Indian damascene work of the kind described is known to us, but that is no proof that such work was not produced. In recent centuries the damascening of Bidar and Jaipur has enjoyed a world-wide renown, and such work could hardly have failed to appeal to the genius of the Maurya craftsman, who, for perfection of technique has rarely been surpassed.[2]

[1] νεὼν δὲ πρὸ τοῦ τείχους ἰδεῖν φασιν οὐ παρὰ πολὺ τῶν ἑκατομπόδων, λίθου κογχυλιάτου, καὶ κατεσκευάσθαι τι ἱερὸν ἐν αὐτῷ ἧττον μὲν ἢ κατὰ τὸν νεὼν τοσοῦτόν τ' ὄντα καὶ περικίονα, θαυμάσαι δ' ἄξιον. χαλκοῖ γὰρ πίνακες ἐγκεκρότηνται τοίχῳ ἑκάστῳ, γεγραμμένοι τὰ Πώρου τε καὶ 'Αλεξάνδρου ἔργα· γεγράφαται δ' ὀρειχάλκῳ καὶ ἀργύρῳ καὶ χρυσῷ καὶ χαλκῷ μέλανι ἐλέφαντες, ἵπποι, στρατιῶται, κράνη, ἀσπίδες, λόγχαι δὲ καὶ βέλη καὶ ξίφη σιδήρου πάντα. Philostr. *Vit. Apoll.* II, 20.

[2] Since this book was sent to Press, I have read in the *J.A.O.S.* (1942, pp. 61–8) an article by H. Schaefer entitled, 'Two Gandharan Temples and their Near Eastern sources', in which the writer endeavours to show that the type of the Jaṇḍiāl temple is traceable to Syria rather than to Greece. Nothing, indeed, is more likely than that Syrian influence made itself felt at this time in the North-West, but in this case the parallels adduced from Syrian architecture are singularly unconvincing. It is enough to note: (*a*) that the term *hilani*, as applied to the façade of the Jaṇḍiāl temple, is a

Mound D, Jandiāl

Of the remains in Mound D immediately to the west of the temple, there is little to be said. Cunningham, who excavated the site in 1863–4, says that the whole of it was then covered with large cut stones and that he 'traced six parallel walls running north and south, and four running east and west'. The walls varied from 4 ft. 3 in. to 6 ft. 6 in. in thickness. There was a courtyard 58 ft. broad at the south end, with a ruined flight of steps giving access to it on the south side, and the rooms were 9 ft. 3 in. to 15 ft. in breadth. By 1912, when I examined the site, all trace of this superstructure had disappeared and nothing was left but foundations. These

Shape	Agate	Aquamarine	Carnelian	Chalcedony	Garnet	Lapis-lazuli	Malachite	Crystal quartz	Slate	Volcanic tuff	Shell	Bone	Faience	Clay	Glass, colourless	Glass, blue	Glass, yellow	Glass, opaque red	Total
Spherical	17	—	23	2	—	—	—	1	—	—	26	—	—	—	1	3	2	—	75
Oblate	1	—	—	—	1	—	—	1	—	—	1	—	—	—	1	2	—	—	7
Barrel, standard	4	—	3	—	—	—	—	1	—	1	2	—	—	—	2	—	—	—	13
Barrel, long	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	3
Barrel, short	1	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	3
Barrel, flat	—	—	—	—	—	—	—	—	—	—	4	—	—	—	—	—	—	—	4
Barrel, hexagonal	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	1
Barrel, collared	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1
Disk	—	—	—	—	—	—	1	—	1	—	6	—	—	—	—	—	—	—	8
Disk, chamfered	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Cylinder, short	1	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1	3	6
Cylinder, hexagonal	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	2
Cylinder, square	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Plano-convex	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Bicone	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Bicone, hexagonal	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Faceted	3	—	1	—	—	1	—	—	—	—	1	—	—	—	1	—	—	—	7
Tabular, square	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1	—	—	—	2
Tabular, hexagonal	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Wedge-shaped	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1
Gadrooned	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	2
Fluted	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1
Spacer	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1
Spacer, flat	—	—	—	—	—	—	—	—	—	—	2	1	—	—	—	—	—	—	3
Pendant, flat	—	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	2
Pendant, club	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	2
Pendant, pear-shaped	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1
Frog-shaped	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1
Shell-shaped	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1
Irregular	—	—	—	—	—	2	—	—	—	—	2	—	—	—	—	—	—	—	4
Total	31	2	32	2	1	6	1	5	1	1	51	2	2	1	6	6	3	4	157

misnomer; (*b*) that the Syrian temples have no parallel to offer to the solid mass of masonry between the *naos* and the *opisthodomos*; (*c*) that the pseudo-peristyle in the Jandiāl temple was as much an integral part of the edifice as it was in Greek temples; and that even if this had not been the case, the *pradakshiṇā* passage was so characteristic of Indian shrines, that it would afford no evidence of a foreign origin.

were built of precisely the same type of rubble masonry as the temple, and there can be no doubt that the two buildings were contemporary. In the debris, which had been much disturbed, I found the following small antiquities:

Minor antiquities from Mound D

Pottery. Ch. 23, no. 251 (*kuza*); no. 274 (fragment of rustic ware).

Terra-cottas. Ch. 24, no. 14 (votive relief of draped female deity); no. 22 (votive relief of seated female deity holding bird).

Stone Objects. Ch. 25, no. 115 (bowl-shaped lamp with animal-headed spout).

Shell. Ch. 33, nos. 35 and 39 (bangles).

Beads. 157 beads, as shown in the Table above. Of these 129 were found in five groups containing 46, 41, 24, 13 and 5 beads, respectively. The groups had evidently been buried below the floor-level of the building, presumably at some time subsequent to its erection.

Coins. Four Local Taxilan ('*Chaitya* and taurine' on obverse and reverse); two Azes I ('King seated and Hermes' and 'Elephant and bull'); one Kadphises I ('Bust of king and Heracles'); five Kanishka (two Sun-god, one Nanaia, one Moon-god, one two-armed Śiva); one Huvishka ('King at altar and four-armed Śiva'); two Vāsudeva ('Śiva and bull'); one Vakkadeva ('Elephant and lion'). Total = sixteen.

POSTSCRIPT

17 FEBRUARY 1951

In regard to the date of the Jaṇḍiāl temple, I add this very late postscript to say that further consideration of this vexed problem forces me to the conclusion that the temple is approximately of the same age as the walls of Sirkap, and that it appertains, therefore, to the Greek period. J. M.

Chapter 10. THE DHARMARĀJIKĀ

Buddhist monasteries and stūpas

WE HAVE seen, in chapters 4, 5 and 6, that a certain number of Buddhist monuments—namely, a large apsidal temple and several stūpas—were brought to light inside the Parthian city of Sirkap, and there can be little doubt that others will be found in that city as well as in the later city of Sirsukh, since chapels and stūpas alike would naturally be required inside the city walls for the convenience of the many lay worshippers among the cosmopolitan population. The vast majority of the Buddhist monuments, however, are to be found, not within the city walls, but in quiet and retired spots at some distance outside them. The choice of such spots for the location of its *saṅghārāmas* dates from the earliest years of the Church's history; for the Master himself and his disciples spent much of their time—at least during the rainy season of the year when they were not journeying from place to place—in such suburban retreats: in the Bambu garden, for instance, near Rājagṛiha, in the Jetavana near Śrāvastī, in the Mango Grove near Vaiśāli, in the Deer Park near Benares. These gardens, with their residences, halls, cloisters and store-rooms, were the only homes that the brethren possessed—if indeed these 'homeless' wanderers can be said to have had a home at all. Here, to quote Oldenberg, 'masses of the population, lay as well as monastic, flocked to see the Buddha and to hear him preach; hither came pilgrim monks from far countries, who had heard the fame of Buddha's teaching'. It is only to be expected, then, that this fashion, which was started by the Master himself, should have been perpetuated by the Church. 'A spot not too far from the town and not too near, suitable for going and coming; easily accessible to all people; by day not too crowded, at night not exposed to noise and alarm; clean of the smell of people; secluded from men; well fitted for a retired life.' Such is the description in the sacred texts[1] of the Bambu garden at Rājagṛiha and of the Jetavana at Śrāvastī. It is a description that might equally well have been applied to most of the large *saṅghārāmas* established in after centuries by the Church; nor could it, in truth, have been otherwise; for any considerable body of *bhikshus* who had to live by begging their daily bread were bound to take up their quarters in the near neighbourhood of some big town, and if they were to get peace and quietude for their devotions, they were equally bound to seek them away from the noise and turmoil of the crowded streets. This at least was inevitable so long as the brethren lived in ordinary dwelling-houses open to public gaze and accessible to every chance comer. Later on, when self-contained and strongly walled monasteries came into fashion, conditions were no doubt changed. It might then have been

[1] *Mahāvagga*, I, 22, 116. *S.B.E.* XIII, p. 143.

possible—even if such a monastery were located in the heart of a great city—for its inmates to enjoy a real measure of peace and seclusion within the protection of its massive walls, though they could not of course hope for the fresh air and healthy conditions that the countryside afforded. But at the time of which we speak (first century A.D.) tradition in these matters had long since become crystallised, and what the *saṅgha* had done for the first five centuries of its existence, it continued to do until the end. Hence, with one possible but very doubtful exception,[1] there is not a single example at Taxila of a *saṅghārāma* erected within the walls of any of the cities. The Kunāla monastery does, it is true, occupy a terrace on the hillside above Sirkap, and actually within the perimeter of the old walls; but the walls in question had fallen to ruin some three or four centuries before this monastery was thought of, and the ploughshare was already beginning to pass over what had once been a thriving city.

Location of monasteries

Of monasteries, on the other hand, located outside the city walls there were literally scores upon scores. Their remains may be traced on every hand, as one traverses the valleys or scales the hills. Many of them occupy the low flat-topped knolls which flood erosion has left standing in the bed of the valleys north and south of the Hathiāl spur; others are perched on terraces jutting out from the shady hillsides; others, again, can be seen crowning the crests of the hills or nestling in the cool glens between them. Wherever, indeed, a suitable site offers itself—and by 'suitable' is meant one within walking distance of the city and one that is either sheltered from the sun or cooled by the breezes—there, in nine cases out of ten, will be found the remains of a Buddhist monastery. On the map (Pl. 1) such remains—nearly all of Buddhist monasteries and stūpas—are shown outlined in red; and a glance at this map will suffice to demonstrate how numerous these monasteries were and what a vast population of *bhikshus* must have been housed in them.[2]

To the south of the Hathiāl spur, the well-secluded valley which lies between it and the Mārgala ridge seems to have been entirely given up to these Buddhist establishments, and the whole aspect of this valley in the early centuries of the Christian era, with its white-walled monasteries and myriad domes and spires rising to the sky, must have been a singularly pleasing and picturesque one—not unlike that presented in the later Middle Ages by the Burmese pagodas at Pāgān, or in modern days by the temples of Palitāna, though at Taxila the monuments were divided into more scattered groups.

Conformation of mounds covering remains of monasteries and stūpas

To-day, the mounds which cover the ruins of these many *saṅghārāmas* are readily distinguishable, even at a distance, by reason of their peculiar and almost uniform conformation—a parallelogram by the side of a circle: the former marking the site of a monastery or *vihāra*, the latter of the stūpa, surrounded by a multitude of smaller edifices. Neither of these two features, it should be noted, neither the

[1] That of the Mahal ruins in Sirkap (ch. 7).

[2] The burden which such a body of mendicants necessarily imposed on the rest of the community must have been as heavy as it is in present day Burma.

high-walled self-contained monastery, nor the stūpa with its lofty dome and crowning umbrellas, which came to be such conspicuous features of the *saṅghārāma* in later time, had been a part of it in the earliest days of the Church. In the *Vinaya* texts there is no mention either of the one or the other, and among the countless monuments of the Faith throughout the Indian peninsula there is no example of a stūpa earlier than the reign of Aśoka in the middle of the third century B.C. and no example of a walled, self-contained monastery until the first or second century A.D.

Antiquity of the stūpa cult

This does not mean that the tumulus or burial mound had been unknown in India in earlier times. Both Fa Hien and Hsüan Tsang speak of ancient stūpas erected over the remains of the former Buddhas: over those of Kāśyapa near a town in the Śrāvastī district; over those of Krakuchanda and Kanakamuni not far from Kapilavastu; and whatever the actual date of these monuments which were seen by the Chinese pilgrims, the fact that they were said to be the graves of the former Buddhas indicates that the practice of raising such memorials to the dead was at least looked upon as an age-old custom. We are told, too, that stūpas were raised over the body-relics of the Buddha himself at the eight towns among which they had been distributed: Rājagṛiha, Vaiśāli, Kapilavastu, Allakappa, Rāmagrāma, Vethadīpa, Pāva and Kuśinagara. From these and other traditions it is abundantly clear that the erection of stūpas must have been a familiar institution in India even in the time of the Buddha. But it is equally clear that among the Buddhists themselves the stūpa did not become an object of marked veneration until the time of Aśoka. Early Buddhist literature is replete with information about the buildings within the *saṅghārāma*, and furnishes the most meticulous details in regard to the life of the brethren; but in none of the books which can be ascribed to a time anterior to Aśoka is there a word about the building or cult of stūpas. Such an omission would be unimaginable, if these memorials had been venerated by the early Church, as they afterwards came to be by the later. No doubt the eight stūpas in which the Buddha's own relics reposed were objects of reverence from the time of his death onwards, but there is nothing to show that the stūpa was adopted as a recognised emblem of the Buddhist faith prior to the time of the Maurya emperor. It was Aśoka who gave the first impetus to this remarkable cult by opening seven of the eight stūpas referred to above, subdividing the relics of the Blessed One among all the principal towns of his realm, and erecting a stūpa of imposing dimensions over each portion.

and its subsequent development

I have dealt with the origin and growth of stūpa-worship at some length in my work on *The Monuments of Sāñchī* (vol. I, pp. 20–3) and I need not traverse the same ground again. Suffice it to say that from the time of Aśoka onward the cult of the relic-stūpa rapidly developed, and that very soon the stūpa itself, whether it contained any relics or not, came to be regarded as the most outstanding and ubiquitous emblem of Buddhism and worthy of worship for its own sake. Thus, before the beginning of the Christian era the stūpa had become the nucleus of every *saṅghārāma* in the land, and was looked upon as the outward and visible manifesta-

tion of the Faith. To build or create a stūpa of any shape or size was a work of religious merit. Hence myriads of these monuments were arising on every hand. Some were imposing edifices of stone or brick, standing in the open, like the great Dharmarājikā Stūpa described below; others were placed in the apses of chapels, where they could be worshipped under cover; others, big and small and in endless repetition, were chiselled in relief or painted in colours on the walls of the chapels, gateways and balustrades, or even on the faces of the great free-standing stūpas themselves; and later on—but this was not until early medieval times—miniature effigies of them were stamped on clay or plaster and buried by scores and hundreds in the heart of sacred structures.

Successive forms of the stūpa at Taxila

The earliest form of stūpa known to us originated in Hindustān and was circular in plan, with a squat, slightly curvilinear dome set on a low plinth or terrace. This was the form of the Dharmarājikā Stūpa at Taxila and of the Great Stūpa at Manikiāla, and it was also the form adopted for the stūpa at Jamālgaṛhī, which is one of the earliest in Gandhāra, and in all probability copied from the Dharmarājikā. But in the North-West, where Greek ideas came to dominate the Indian, the circular plinth was early (first century B.C.) replaced by a rectangular one, and the dome was elevated on a high drum. Hellenistic influence also showed itself in the classical pilasters and mouldings with which the faces of the plinth and drum were adorned. About the end of the first century A.D. a further change was effected by dividing the plinth horizontally into two or three receding terraces, and afterwards by introducing a figure of the Buddha in the middle bay of each face; and from the second until the fifth century the simple classical features became progressively Indianised and obscured by the wealth of figural reliefs with which the faces of the plinth and drum were covered.

The *saṅghārāma* in India proper

The quadrangular, high-walled monastery or *vihāra* was of still later date than the stūpa; for it seems to have made its first appearance in the *saṅghārāmas* of the North-West during the first century A.D., and thence to have found its way southward and eastward to the rest of India. Up to that time the buildings which constituted a *saṅghārāma* were, according to the *Vinaya* texts, the following: living- and sleeping-quarters for the *bhikshus*; a refectory or service-hall (*upaṭṭhāna-sālā*); a fire-hall or kitchen (*aggi-sālā*); an open pillared pavilion (*maṇḍapa*); a promenade and cloister for walking exercise (*caṅkamana-sālā*); a bathroom for hot baths (*janṭāghara*); a *kathina*-hall for tailoring; a privy; a well and well-house (*udapāna-sālā*); a store-room (*koṭṭhaka*); and a provision and drug store (*kappiya-kuṭi*). It is perfectly clear, however, from the texts that these various parts of the *saṅghārāma* were not incorporated in a single building but were, for the most part at any rate, detached structures. Certainly the *vihāra*, where the monks had their living- and sleeping-quarters, was not in those days the standardised type of edifice that we have come to associate with the Buddhist monastery of later times, that is, a large and usually two-storied structure with one or more open, rectangular courts enclosed by lines of cells and other chambers, with broad verandas in front. That neither the larger *vihāras* nor the other residential quarters of the monks, viz.

pasāda, *adhayoga*, *hammiya* or *guha*, were built on the same plan as the later ones, i.e. with the cells all facing inwards into the closed court, is clear from the many precautions taken to screen the inmates from the public gaze,[1] which would certainly not have been necessary in the later high-walled and effectively guarded monasteries, such as we shall presently describe. That the adoption of this latter type of structure was due primarily to the need for greater security, can hardly be doubted.

Fundamental change introduced in the North-West

The open and unprotected *saṅghārāma* of Hindustān and Central India, which made a feature of being accessible to anyone and everyone, may have been suitable enough in parts of India where the lives of *bhikshu* and *bhikshuṇi* were exposed to no dangers; it could hardly have been suitable in the North-West, where the temper of the people was more violent and aggressive and where the risks of hostile invasion were rarely absent. The new type of *saṅghārāma* which here came into fashion took its design from the dwelling-house of the time, the fundamental principle of which was then, as always, in the East, the open court encompassed by chambers,[2] access to which could only be obtained through the court itself. In India this type of dwelling-house goes back to the Chalcolithic age, if not earlier, and at the beginning of the Christian era it must have been just as familiar in Hindustān as it was on the North-West Frontier or in Western Asia generally. Its use, therefore, in the *saṅghārāmas* of the Buddhists might equally well have been initiated in one part of India as in another. That it was in fact initiated in the North-West resulted from life and property being less secure there than in other parts of India; and that the example set there was subsequently copied in Hindustān and elsewhere, was probably due in a large measure to the changing character of the Church, which was everywhere tending to substitute regular, settled monasticism for the wandering life, and to relax its rules pertaining to strict asceticism and the possession of property.

The Dharmarājikā or Chir Tope

To return, however, to the *saṅghārāmas* of Taxila. The most important, and probably the oldest of them, is one situated at the foot of the Hathiāl spur on its southern side, and between it and the small Tamrā nālā (Map, 3c). The ancient name of this establishment, or rather of the great central stūpa which still dominates the group of ruins, was the Dharmarājikā; its modern name, derived from a wide cleft which some former treasure-seekers drove through its dome, is the Chir (or Split) Tope. The precise meaning of the word Dharmarājikā is open to question. The *Divyāvadāna* calls Aśoka the Dharmarāja, and on the strength of this Prof. Vogel took *dharmarājikā* to mean a stūpa erected by Aśoka, the Dharmarāja.[3] But the *Divyāvadāna* also informs us that Aśoka was designated Dharmarāja because he had erected *dharmarājikās*, and Prof. Konow infers therefore that *dharmarājikā* denotes a stūpa erected over a body-relic of the Buddha who was the true

[1] *Cull.* VI, 3, 3. Cf. my *Monuments of Sāñchī*, vol. I, pp. 61–3.

[2] Cf. *M.I.C.* I, p. 18.

[3] *A.S.R.* (1903–4), p. 223. Cf. also Julien, *Mémoires sur les contrées occidentales, par Hiouen-thsang*, I, p. 417.

Dharmarāja.[1] Since, however, nearly all the stūpas containing Buddha's relics were known to have been erected by Aśoka, the term would naturally come to bear both meanings, viz. a stūpa containing one of those relics or a stūpa erected by Aśoka. We have good reason accordingly to infer that Taxila was one of the many cities in the Maurya Empire which received from Aśoka a share of the holy relics, and that the Dharmarājikā was the stūpa originally erected by him to house that share. But even if we had not had the evidence of its name, we might reasonably have surmised that this stūpa owed its origin to Aśoka, for not only is it by far the biggest and most conspicuous of all such monuments at Taxila, but it is also the oldest and if any stūpa at all was erected by Aśoka at Taxila, we may be virtually certain that it was this one. That a city of such pre-eminence as Taxila would have been passed over in the distribution of the relics, or that Aśoka, who had spent many years there as viceroy during the lifetime of his father Bindusāra, would have been forgetful of its claims, is highly improbable. Unfortunately, there is nothing now remaining of the original fabric of this stūpa or of any other monument that can be definitely recognised as Mauryan; indeed, the only tangible indication—and it is a very slight one—that there were any monuments of Aśoka at all at Taxila, is to be found in the discovery of one or two small mullers made of that particular variety of sandstone from the quarries of Chunar which was invariably used for the pillars, balustrades and other objects set up by the Maurya emperor. As I point out in the chapter on 'Stone Objects' (ch. 25, p. 480 and nos. 23, 24), it is in the highest degree unlikely that small objects such as mullers, which could equally well have been made of local Tarakī stone, quartzite or the like, would have been traded all the way from Chunar on the other side of Benares. A more probable explanation of their presence at Taxila is that they were either made from the broken fragments of one of Aśoka's pillars or other memorials which had been thrown down and broken to pieces, possibly during the revolt at Taxila when Kunāla was viceroy, or that they were made from the debris in the stoneyard left over after the carving of one of these monuments. In either case their presence at Taxila gives support to the inference that the city was not without some monument or monuments of the Maurya emperor.

Founded by Aśoka

Slight evidence of Maurya monuments at Taxila

At the time (1913) when I started my excavation at the Dharmarājikā Stūpa the base of the monument was buried to a depth of some 20 or 30 ft. in fallen debris, which, on the north side, extended over the whole area of the attached monasteries and involved a vast amount of labour in its removal. Beneath this debris the *pradakshiṇā patha* and berm of the stūpa, as well as a substantial section of the facing above the latter on the east side, were found in a fair state of preservation, and as the excavations expanded, they brought to light a large array of other structures—stūpas, chapels and monastic quarters, which, extending as they do over a period of five centuries, furnish us with valuable data for the history of local architecture and art. Thanks, also, to the coins, inscriptions and other minor antiquities associated with them, they help materially to the solution of some of the chronological problems connected with this period of Indian history.

Character of the site

[1] *Ep. Ind.* II, p. 75.

Plan and elevation of the Great Stupa

The central stūpa, as now exposed to view, is approximately circular in plan with a raised terrace around its base, which was ascended by four flights of steps, one at each of the cardinal points (Pl. 45). Its diameter overall, including the terrace and steps but not including the *pradakshiṇā patha*, is 150 ft. from east to west by 146 ft. 6 in. from north to south, the body of the stūpa having an average diameter of 115 ft., the berm a projection of 8 ft. and the steps a further projection of 8 ft. 6 in. The present height of the ruin is about 45 ft. (Pls. 46 and 47). The core is built of rough rubble masonry, strengthened by sixteen walls, from 3 ft. 2 in. to 4 ft. 9 in. in thickness, radiating irregularly from the centre. It is to be noted, however, that these construction walls stop short above the berm of the stūpa instead of being taken down to its foundations, and there can be no doubt that they belong to a later reconstruction carried out after the body of the monument had been reduced to ruin (Pl. 48, *a*). I have stated above that no part of this stūpa has survived which can be definitely recognised as Mauryan. That does not, however, mean that the foundations and lower part of the superstructure—as high as the bottom of the radiating walls—may not date from that period. It means only that, constructed throughout as they are of rough rubble limestone masonry, it is impossible for anyone to say whether they were built in the third, second or first century B.C. All we can be sure of is that they are not earlier than the time of Aśoka and not later than about the middle of the first century B.C., since it was in that century that, as we shall presently see, a series of small stūpas was erected in a ring around the main edifice, which manifestly could not have happened, unless the Dharmarājikā itself had already been in existence. My own view is that the surviving foundations are referable to the Maurya age, but it should be understood that my view is based only on the probabilities of the case and the name Dharmarājikā, not on any visible evidence afforded by the remains themselves.

Age of its foundations

Date of reconstruction of drum and dome

As to when the original fabric fell to ruin and was rebuilt, the stūpa itself does afford some evidence; for, although the masonry of the reconstructed drum is rough limestone rubble, there is a certain measure of regularity in the way it is laid that recalls the masonry of many of the Śaka-Parthian buildings in Sirkap, rather than the earlier masonry of the Bhir Mound or of the lower settlements in Sirkap. Moreover, the principle of the radiating construction walls is paralleled to some extent in the foundation walls of the little stūpa in Block C′ in Sirkap, which was erected after the earthquake in the early part of the first century A.D. But another and stronger reason for ascribing the rebuilding to the first century A.D. is to be found in a small patch of diaper facing masonry on the west side of the stūpa drum immediately above the berm, which apparently belongs to the reconstruction period and is identical with other diaper work of the first century A.D. For these reasons there seems to me little doubt that the rebuilding of the drum and dome dates from the first century of our era. With this established, the question next arises as to how and when the stūpa had come to be destroyed so effectually as to require such complete rebuilding; for it is fairly clear that its destruction must have been due to great violence of some sort at the hand of either man or nature, not

to mere age and decay. The answer to this question, I think, is that the Dharmarājikā, which had evidently been intact when the ring of small stūpas was erected around it in the first century B.C., was destroyed at the same time and by the same agency as those stūpas, and I have little doubt that this agency was the great earthquake which wrought such havoc to the city of Sirkap and the temple of Jaṇḍiāl in the first half of the first century A.D.

Reconstruction of raised terrace

The next landmark in the history of this stūpa was the reconstruction of the terrace and four flights of steps at its base. The character of the masonry used in this reconstruction is very distinctive. It is of the semi-ashlar type, with which we have already made acquaintance in Sirsukh and which we shall discuss in greater detail presently, but in the facing of the terrace the smaller interstitial stones are of kañjūr instead of the usual hard local limestone; and the whole is divided by shallow Corinthian pilasters of kañjūr into panels averaging some 3 ft. 7 in. across (Pls. 46, *c* and 48, *b* at bottom). The details of the pilasters were originally worked out in plaster, and the entire face of the terrace was no doubt finished off with the same material. Below the base of the Corinthian pilasters was a continuous torus and scotia moulding of kañjūr, of a type earlier than that higher up on the face of the drum above the berm. Above the pilasters were small Hindu brackets and surmounting them a dentil cornice, which carried the pavement slabs of the berm and was returned as a raking cornice down the outer sides of the four ascending flights of steps.

dating from second century A.D.

The particular type of masonry found in this terrace, in which a considerable amount of kañjūr is usually mixed with the limestone, is the earliest type of semi-ashlar, and goes back almost certainly to the time of the Kushān kings Huvishka and Vāsudeva, if not to that of Kanishka. We shall revert to it again in connexion with the stūpas K1, K3, N4, P3–P6, and some other contemporary structures built in the same way.

Later ornamental band above berm

Immediately above the berm the base of the stūpa drum is faced with a band of ornamental stonework (Pls. 46, *b*, *c* and 48, *b*) composed entirely of kañjūr, in contradistinction to the berm, which, as already stated, is partly of kañjūr and partly of limestone. This ornamental band dates probably from the fourth or fifth century A.D. and represents the last of the repairs carried out to the Dharmarājikā Stūpa before the destruction of this and all other Buddhist monasteries at Taxila at the hands of the White Huns. Opposite each of the four flights of steps it takes the form of a projection (19 ft. wide by 5 ft. 4 in. deep and probably from 15 to 20 ft. high) distinguished by an unusually bold roll-moulding running along the top of its plinth, above which are the remains of three niches—a larger one in the centre for an image of the Buddha, and a smaller one at each side, doubtless for attendant Bodhisattvas. Circling the quadrants between these four projections was a band, 5 ft. 4 in. in height, containing a series of shallow niches, divided one from another by Corinthian pilasters and framed alternately by trefoil arches and portals with sloping jambs. Below the niches is a continuous torus moulding, and above them the usual dentil cornice; in the niches themselves were once, no doubt, rilievos of

the Buddha or of Bodhisattvas. At the time when this ornamental band was added, the facing of the drum behind it was also repaired in semi-ashlar masonry of a late type.[1]

Relics probably removed by treasure-seekers

So far as I am aware, there is neither record nor tradition of any relics having been discovered in this stūpa. A deep broad trench driven right through the heart of the fabric (Pl. 47) bore witness to the vast labour which some former treasure-seeker or explorer must have undertaken in order to reach the relics, but who this treasure-seeker was is not known to us. That he was successful in his search for the relics is, I think, rendered highly probable by the fact that his excavation stopped short at a point somewhat above the berm, and it is most unlikely that this would have happened unless the relic chamber had been discovered there. To make quite sure of this, however, I myself continued the digging through the as yet untouched foundations in the centre of the structure right down to virgin soil, which was reached at a depth of some 25 ft. below the point where the former excavation had stopped. My labour, as I had anticipated, proved in vain, as nothing at all was found. But the task was one which manifestly had to be carried out, particularly as it was my intention to fill in the vast, gaping breach in the stūpa, and I cannot therefore regret the time and labour expended upon it.

Pradakshiṇā patha

Besides the raised berm described above, there was, as usual, a procession path encircling the stūpa on the ground level, round which it was customary for the faithful to process in the direction of the sun, i.e. keeping the stūpa always on the right hand. The width of this procession path is on the average between 11 and 12 ft., but it will be seen from the plan that the fronts of the many small chapels which bound it on its outer side are far from uniform or regular.

Successive floors

The original floor of the procession path was composed of lime mixed with river sand, and was adorned, in a curious fashion, with shell bangles embedded in the plaster and arranged in a variety of simple geometrical patterns, some of the bangles being whole, others cut in halves or in quarters. Above this floor was an accumulation of debris about 3 in. thick, and over this again another floor of lime plaster. In the debris immediately above this floor were found many pieces of glass tiles, similar to those found in chamber F 1 (cf. *infra*, p. 246, and 'Glass Objects', ch. 35, no. 16); and fixed in the floor itself in the south-east quadrant and seemingly in its original position, was one complete specimen of a tile measuring 10¼ in. square. Probably the whole procession path was at one time paved with these glass tiles, and later on, when the pavement had fallen into disrepair, a number of the tiles were removed from here to the chamber F 1, where they were found laid in a very careless, haphazard manner, just as they were in the nave of the chapel A 1 at Kālawān, the tiles for which may well have come from this same source at the Dharmarājikā Stūpa.

The last floor to be laid in the *pradakshiṇā patha* and the only floor which is now visible (in the north-east quadrant) is composed of slabs of dark grey slate, some

[1] It may be noted that there is a slab of Gandhāra stone carving built into the kañjūr facing above the berm, at the north-east corner on the east side of the stūpa.

of which measure about 1 ft. × 1 ft. 6 in. × 1–2 in. in thickness, but most are in a very broken condition.

Their probable dates

The dates of these three successive floors are problematical. At the time when the Dharmarājikā Stūpa was first erected, the surface of the plateau around seems to have been levelled up and covered for a considerable distance with a layer of river sand and a floor of lime plaster above. Much of this original flooring has been broken up by the foundations of buildings subsequently erected, but so far as can be made out, it corresponds with the earliest of the three floors in the *pradakshiṇā patha*, and if I am right in believing that the great stūpa goes back to the time of Aśoka, this earliest floor will naturally be referred to the same age, though it is likely enough, of course, that it was often repaired, and the decoration of shell bangles may have been added in a later age. The second floor, on which remnants of glass tiling were found, is probably to be referred to the period when the Great Stūpa was rebuilt in the first century A.D., or (though this is less likely) to about a century later, when the existing terrace and steps were constructed around the base of the stūpa. The third and last floor was probably laid during the great building period in the fourth to fifth century A.D., when the ornamental band of carved niches was added above the berm. The dates suggested above, however, are based largely on conjecture and must not be regarded as more than probable.

Lion (?) pillar near eastern steps

Immediately to the left of the steps on the eastern side of the stūpa is the lower part of a circular pillar of kañjūr stone, which no doubt once supported a lion capital, like the pillars at the stūpa in Block G in Sirkap (p. 167). Such pillars were imitated from the well-known pillars of the Emperor Aśoka, which were frequently set up beside his stūpas, as, for example, at Sārnāth and Sāñchī.

Finds in the *pradakshiṇā patha*

Of the minor antiquities unearthed on the procession path, the most interesting were some Gandhāra sculptures found in the passage on the east side of the stūpa, but which had no doubt come from one of the neighbouring chapels. These include a standing figure of the Buddha ('Stone Sculptures', ch. 36, no. 158), a standing Bodhisattva (*ibid.* no. 152) and two small garland-bearing figures on lotus pedestals (*A.S.R.* 1912–13, Pl. VII, *a*, 1 and 3), which, though in the round, have evidently been broken from some alto rilievo.

Three groups of coins were also recovered from the debris which by medieval times had formed above the procession path. The largest of the three was contained in a small block of kañjūr which was found above the western flight of steps. In one side of the block a hole had been hollowed out, and in this hole was a hoard of 355 coins, together with a copper bangle, three copper rings and a shell bangle (no. 1,024 of 1915). The coins, of which one is lead (defaced) and the remaining 354 copper, comprise specimens of Rājuvula, Azes II, Kadphises I, Soter Megas, Kanishka, Huvishka and Vāsudeva, besides some Sasanian of Shāpur II, and late Indo-Sasanian issues.[1] Noteworthy among them are a rare issue of Soter Megas (R.U.C. ch. 39, no. 250) with erect nude figure on obverse holding sceptre in right hand and drapery over left arm, and draped figure standing to right on reverse;[2] specimens of the debased Indo-Sasanian

[1] Besides those specially noted, the types represented are as follows: Rājuvula, 'Lion and Heracles'; Azes II, 'King on horseback and Zeus Nikephoros'; Kadphises I, 'Bust of Hermaeus and Heracles'; Kanishka, 'King at altar and Śiva'; Huvishka, 'King on elephant and Moon-god'; Vāsudeva, 'King at altar and Śiva with bull'; Shāpur II, 'Bust of king and fire-altar'.

[2] Cf. *P.M. Cat.* Pl. XVI, no. 113, and *A.S.R.* (1914–15), p. 32, no. 32.

type, showing a crude standing figure on the obverse and a square within dotted circle on the reverse (*ibid.* nos. 344–6);[1] and other specimens showing a Brāhmī character in dotted border on both obverse and reverse (*ibid.* no. 352). There is no reason to suppose that this hoard of coins had been buried in any of the stūpas. Probably the hollow block of kañjūr was merely a secret hiding-place where one of the monks hid his store of coins on the approach of the White Huns. The possession of money by a monk was contrary, of course, to the rule of the Church, but the many small hoards that have been found in monasteries of the early medieval period leave little room for doubt that by that time the rules had become more or less a dead letter.

A second hoard, found in the north-east quadrant of the procession path, contained 305 coins, viz.: two of Vāsudeva of the 'Śiva and bull' and 'Seated goddess' type; eighteen Sasanian of the 'Bust of king and squat altar' type (cf. R.U.C. nos. 289 *sqq.*); 285 debased Indo-Sasanian mainly of type R.U.C. nos. 344–6, but many defaced.

The third group (no. 1,466 of 1915–16), from the debris at the east entrance, comprised only four coins, viz.: one Soter Megas (R.U.C. no. 251); one Kanishka of the Nanaia type; two Vāsudeva of the same types as above.

Ring of small stūpas around the Great Stūpa

The Great Stūpa described above was without doubt the first of the Buddhist buildings to be erected on the plateau. Next in chronological order but at an interval of some two centuries—if the date assigned to the original edifice is correct—came a series of small stūpas built in a ring around the parent one at a distance from the existing terrace of some 15 to 20 ft., though whether the original Dharmarājikā had the same diameter as it now has is questionable.[2] Starting from the west and proceeding clockwise, these small stūpas are shown numbered in the plan (Pl. 45) as follows: R4, S8, S9, B6, B3, B7, B16, B20, D10, D1, D2 and D3. They are built of random rubble composed of limestone or of limestone and kañjūr combined, the facing being usually of squared kañjūr finished off in plaster; but in some cases the kañjūr facing is confined to the mouldings only;[3] in others it is dispensed with altogether, the plaster being applied direct on the rubble. What now remains of these stūpas consists of a circular drum sometimes set on a square or circular plinth, sometimes without the plinth but with a simple cyma recta moulding running round the base (see Pl. 47, *b*, in which the stūpas D2 (left) and D1 appear in the centre of the picture, and Pl. 49, *a*, where a close-up of D1 appears on the left). In stūpa D3, the square base was divided into panels by a row of eight slender pilasters (of which five are exposed to view), just as in the stūpas of the late Śaka period in Sirkap (e.g. in Blocks F and G). Around the edge of the square plinth ran a railing of kañjūr stone. The remains of one such railing were found built into the late diaper walling of the chapel, R1. In each and every one of these stūpas the dome and crowning umbrella were missing, and in other respects the body of the stūpa was much damaged.

[1] Cf. *A.S.R.* (1914–15), p. 34, no. 42.

[2] The usual method, when restoring a stūpa, was to encase it in an envelope, thus substantially increasing its dimensions. Well-known examples of this method are the stūpas of Aśoka at Sāñchī and Sārnāth.

[3] It should be noted that in these early stūpas the pilasters were usually constructed of a single vertical slab of stone, not divided into courses and tailed into the adjoining masonry, as the later ones were.

The age of these stūpas can be determined within narrow limits. Their characteristic construction and design, as well as the discovery of coins of the Śaka kings Maues and Azes I, indicate the middle or latter part of the first century B.C. as the date when they were erected, though some of them may run on into the early decades of the Christian era. For their destruction, on the other hand, a *terminus ante quem* is provided by the fact that a number of small chapels in the early diaper style, prevalent about the middle of the first century A.D., were built over their ruins. Thus their brief life is comprised between about 50 B.C. and A.D. 40, and we can have little or no doubt that the cause of their ruin was the great earthquake already referred to, which produced such widespread devastation among the houses of Sirkap in the first half of the first century A.D. (p. 137).

Some of these small stūpas and their contents call for our special attention, and in the first place it should be observed that some of the relic caskets which they yielded were found buried several feet below their foundations. This is a point which I commend to the notice of other excavators, because the soil in which the relics were buried had all the appearance of being virgin, and after a foot or two of it had been dug there seemed singularly little hope of finding anything more.

Stūpa R 4

Stūpa R4, which, as we shall presently see, was repaired and added to on several occasions, was standing to a height of about 4 ft. above the *pradakshiṇā patha* of the Great Stūpa. In this case the relic casket (Pl. 50, *a*) was found at a depth of 9 ft. from the top, i.e. about 5 ft. below ground-level. The casket is of grey schist, 3 in. high and turned on the lathe. In it was a small cylinder of gold, 0·81 in. high (Pl. 51, *a*) containing some minute bone ashes and a fragment of carnelian.[1] By the side of the casket was a square copper coin of Azes I of the rare type 'King on camel and yak' (R.U.C. no. 142).

Stūpa S 8

Stūpa S8 consists of a square plinth and circular drum, and is constructed of rough rubble with a torus moulding of kañjūr near the base of the latter. The same material was no doubt used for facing the upper part of the structure, just as it was used in the contemporary stūpas D1 and D2, etc. In penetrating into the interior of this stūpa some difficulty was experienced owing to the walls of the later chapels having been carried directly across its centre; and as these walls could not be removed, it was necessary to sink a shaft alongside them and then cut laterally beneath their foundations.

The relic chamber, which is constructed of kañjūr blocks, 9·5 × 8·75 × 11 in. deep, was reached at a depth of 6 ft. below the top. Inside it were four copper coins of Maues and Azes I and a casket of grey schist stone, well turned on the lathe (Pl. 52, *a*), which contained the following articles: (1) Miniature casket of gold, diam. 0·62 in. (Pl. 51, *b*). (2) Three gold safety-pins (Pl. 51, *c–e*), one with a diamond-shaped bezel surrounded by a double line of granulations and inlaid with opaque blue stone (length 1·62 in.); the second with plain diamond-shaped bezel (length 1·43 in.); and the third with plain leaf-shaped bezel (length 1·25 in.). (3) Six small beads of ruby, garnet, amethyst and rock crystal, five pierced and one unpierced.

[1] For the casket and reliquary, cf. *A.S.R.* (1914), Pl. IV, 6 and 5.

(4) In the gold reliquary were a tiny bone relic, five minute beads of bone, a round bead of ruby, three small pieces of silver leaf, a piece of coral and a fragment of stone.[1]

This relic casket with its contents was presented by the Indian Government in 1917 to the Buddhists of Ceylon, and installed by them in the Temple of the Tooth at Kandy.

Stūpa S9

The stūpa S9 is almost entirely concealed from view by later chapels erected over it. All that is now visible is the eastern side of the square plinth, which is constructed of rubble faced with kañjūr stone and covered with stucco. In the centre of this plinth was a circular relic chamber, 1 ft. 1 in. in diam. and 1 ft. 4 in. deep, with a heavy slab of coarse conglomerate stone (2 ft. 7 in. × 2 ft. 6 in. × 6 ft. 5 in.) over the top. The casket enshrined in this chamber is exceptional in being of ivory (Pl. 49, *c*). It measures 4 in. in diam. and, like the caskets of stone, was turned on the lathe, but it differs from them to this extent, that the concentric circles with which the lid and base are decorated are in relief instead of being incised.

Inside the casket was another small ivory reliquary of cylindrical shape, decorated externally with eleven horizontal gadrooned bands (Pls. 49, *c* and 50, *f*). Besides this small casket there were also in the larger receptacle the following articles: (*a*) seven, more or less broken, bowl-shaped pieces of silver, varying in diam. from 0·5 to 0·87 in., which appear to have been laid on a core of wood fitted into the concave side; (*b*) two gold pieces of smaller size, damaged; (*c*) fragment of twisted gold wire; (*d*) two pieces of coral; (*e*) one small spherical bead of gold, diam. 0·18 in.; two spherical garnet beads, diam. 0·21 and 0·15 in.; three pearls; four glass beads, diam. 0·1 to 0·2 in.; two cubical beads of iron pyrites, 0·18 and 0·15 in. respectively; (*f*) fragments of glass paste and limestone.

Stūpa B6

The stūpa B6 is buried beneath the ruins of later chapels, and a section of diaper walling had to be cut through in order to reach its rubble core. Its relic chamber, which was located at a depth of 13 ft. below the existing top of the stūpa, was roughly square in shape with walls constructed of small stones and its top covered by a large flat block of limestone. Inside the chamber was a vase-shaped casket of grey schist, and another of grey limestone in the form of a stūpa (Pl. 50, *d* and *c*). The former (height 4 in.) is lathe-turned and decorated with incised circles around the body and lid and provided with a handle on top.

Inside this casket was a smaller reliquary of silvery bronze, 1·37 in. high, in the form of a stūpa crowned with umbrellas (Pl. 51, *f*), and in this reliquary were some calcined fragments of bone and ashes, and a few gold, agate, pearl and bone beads, namely: seven spherical beads of gold, diam. 0·02–0·1 in.; three tiny pearl beads; a barrel banded-agate bead, length 0·2 in.; two cylindrical coral beads, length 0·1 in.; two tiny glass spherical beads, length 0·05 in.; and a small fragment of gold sheet, length 0·3 in. The second casket, of limestone, is 3·5 in. high and provided with a small cavity underneath, in which were packed together the following large assortment of interesting beads and gems and seven fragments of gold sheet.

Beads from stūpa B6

Banded agate: one spherical, diam. 0·21 in. (Beck, *Beads from Taxila*, Pl. III, no. 33); six ditto, diam. 0·2–0·35 in. (one not pierced); four long barrel, length 0·32–0·45 in. (Pl. 51, *n*, nos. 25–6); two flattened leech, length 0·72 and 0·92 (Pl. 51, nos. 30, 32 and Beck, III, 37); two drop pendants, length 0·6 and 0·68 in. (Pl. 51, nos. 13, 12; Beck, III, 36); one toggle, length 0·65 in. (Pl. 51, no. 18; Beck, III, 35).

[1] Cf. *A.S.R.* (1915–16), p. 5, and Pl. IV, 17–26.

Amethyst: one hexagonal barrel, length 0·35 in. (Pl. 51, no. 27; Beck, VI, 12); one frog-shaped, length 0·37 in. (Pl. 51, no. 9; Beck, VII, 31).

Beryl: one flattened rectangular, length 0·31 in. (Pl. 51, no. 24).

Carnelian: twelve spherical, diam. 0·15–0·3 in.

Garnet: thirty-eight spherical, diam. 0·13–0·33 in. (Pl. 51, no. 29); one flattened spherical, diam. 0·21 in.; fifteen standard barrel, length 0·1–0·5 in.; one hexagonal standard barrel, length 0·45 in. (Pl. 51, no. 22); one hexagonal short barrel, length 0·29 in. (Pl. 51, no. 4); two hexagonal cylinders, length 0·2–0·38 in.; one long bicone, length 0·41 in. (Pl. 51, no. 28); one toggle, length 0·29 in. (Pl. 51, no. 23; Beck, VI, 34); two eye-shaped plano-convex, length 0·4 in. (Pl. 51, nos. 6, 10); two seated-lion shaped, length 0·45 in. (Pl. 51, nos. 17, 20; Beck, VII, 7); one running-lion shaped, length 0·49 in. (Pl. 51, no. 15; Beck, VII, 8); one bird-shaped, length 0·52 in. (Pl. 51, no. 8; Beck, VII, 17); two tortoise-shaped, length 0·45 in. (Pl. 51, nos. 19, 21; Beck, VII, 25); two tortoise heads, length 0·25 in. and 0·3 in.; one *triratna*-shaped, length 0·3 in. (Pl. 51, no. 31; Beck, VI, 33).

Green jasper: one 26-sided, with square and triangular surfaces, length 0·36 in. (Pl. 51, no. 2; Beck, VI, 40).

Lapis-lazuli: five spherical, diam. 0·2–0·37 in.; one disk, diam. 0·2 in.; one *triratna*-shaped pendant, length 0·4 in.

Colourless quartz (crystal): two standard barrel, length 0·56 and 0·6 in. (Pl. 51, no. 5); one short hexagonal cylinder, length 0·47 in. (Pl. 51, no. 35; Beck, V, 12); one cornerless cube, length 0·4 in. (Pl. 51, no. 34; Beck, V, 14); one flattened leech, length 0·5 in. (Pl. 51, no. 36; Beck, V, 16); one toggle, length 0·3 in. (Beck, V, 15); one frog-shaped, length 0·51 in. (Pl. 51, no. 16; Beck, VII, 29).

Yellow quartz: one hexagonal barrel, length 0·68 in.

Glazed quartz: one lion-shaped, length 0·5 in. (Pl. 51, no. 3; Beck, I, 9).

Pyrites: nineteen cubical, length 0·1–0·25 in.

Coral: thirty-nine beads of spherical, barrel, cylindrical and irregular shapes, from 0·05 to 0·38 in. long; one toggle, length 0·28 in. (Beck, X, 32); one foot amulet, length 0·6 in. (Beck, X, 31).

Pearl: fifty-seven small spherical and irregular pearls, from 0·03 to 0·15 in. diam.; one flattened spherical and one spherical bead of mother-of-pearl, diam. 0·4 and 0·44 in. (Beck, VIII, 43); three spacing beads of mother-of-pearl with three transverse holes in each, length 0·5–0·44 in. (Pl. 51, nos. 11, 14; Beck, VIII, 27).

Shell: one cylindrical disk, length 0·08 in.; one spacing bead with two transverse holes, length 0·65 in. (Beck, VIII, 29); one rectangular ditto, length 0·3 in.; one bell-shaped pendant, length 0·54 in. (Beck, VIII, 25); one double-axe shape, length 0·32 (Beck, VIII, 26).

Glass: 160 tiny spherical beads of black glass, diam. 0·05 in.; one short cylindrical bead of black glass, length 0·05 in.; one tetrahedron of cobalt blue glass, length 0·25 in. (Beck, IX, 32); 106 tiny disk beads of red opaque glass, length 0·05 in.; 148 tiny disk beads of white opaque glass, length 0·05–0·06 in.; one long barrel bead of white opaque glass, length 0·17 in.; one short cylinder of white opaque glass, length 0·12 in.; one bell-shaped pendant of yellow glass, length 0·45 in. (Beck, IX, 36); six spherical of colourless glass, diam. 0·1–0·2 in.; two barrel-shaped colourless, length 0·3 and 0·5 in.; one ditto, hollow, length 0·17 in.; one collared barrel colourless, length 0·2 in.; one short cylinder colourless, length 0·12 in.; one vase-shaped of corroded glass, length 0·46 in. (Beck, IX, 35).

The stūpa B3 is not built over to the same extent as the foregoing ones. Its circular base was increased by the addition of a much larger circular plinth. Both the original fabric and the later addition are faced with kañjūr stone and provided with a simple torus and scotia moulding at the foot. The diameter of the original Stūpa B3

is 11 ft. 6 in.; of the enlarged base 19 ft. The stūpa contained no proper relic chamber, but placed in the earth at a depth of 5 ft. below the base was a relic casket of grey schist, 7·5 in. high (Pl. 50, *e*). The casket is well turned and relieved with shallow incised lines round its body. The top of the lid takes the form of a miniature casket. Inside the casket was a miniature gold reliquary containing a fragment of bone and a number of pearls, carved carnelians and other stones, viz.:

One barrel bead of garnet, length 0·27 in.; two barrel zone beads of banded agate, length 0·3 and 0·42 in.; one square tabular bead of iron pyrites, 0·2 in.; seventy-one tiny pearl beads, diam. 0·05–0·25 in. Cf. *A.S.R.* 1912–13, p. 12, and Pl. VII, *c*.

Besides the twelve stūpas described above, there is a plinth D13, halfway between D10 and B20, in the south-east quadrant, which appears to be contemporary with them, and probably served as the base of another stūpa, though all trace of its drum has perished. To the same Śaka-Parthian period also belong a number of other small structures a little farther away from the Great Stūpa. Thus to the south and south-east there are the three small stūpas, D4, J2 and J3; to the north-east, the stūpa base N7 (original); to the east, the stūpa base N3;[1] to the north, the tank on the east side of K1 and the original or innermost part of the shrine H; and to the west, the stūpas G8 and Q1, as well as the square foundation of another small stūpa in G3, while farther out on the west is a range of monks' cells and other chambers, E1 and E2, and F1–F3; and on the south side, the boundary wall of the enclave. Of these structures, the stūpa D4 was originally circular in form and composed of a rubble core faced with square kañjūr. The size of the stūpa was afterwards increased by adding to it a square casing, also of kañjūr, measuring 22 ft. 3 in. square. Of this second stūpa all that remains is a well-cut torus and scotia moulding of the plinth, and, on the east side, the bases of two pilasters, one square and the other round, the two types having apparently alternated with one another round the plinth. At a still later date, probably in the latter part of the first century A.D., another and larger casing was added, bringing the dimensions of the structure up to 32 ft. 9 in. square. The base of this latest addition is composed of small diaper masonry surmounted by squared kañjūr. It is a noteworthy feature of this stūpa that the earliest circular building is not in the centre of the later addition but a little to the south of it. No relics were found in this stūpa.

Stūpa D4

Stūpa J2

All that is left of the stūpa J2 is a square plinth measuring 11 ft. 2 in. square, with a projection, intended for steps, on the west. The core of the structure is rough rubble and the plinth is faced with square kañjūr blocks adorned with a row of four slender pilasters on a torus and scotia moulding. In my *Report* for 1914–15 (p. 8) I expressed the opinion that this stūpa was later than the Parthian period, but a reconsideration of the level of the base, which is substantially lower than that of J1, as well as of other details, has since led me to the conclusion that it probably dates from the first century A.D.

[1] The date of this stūpa, however, is not certain.

The relic chamber, which is located at a height of 2 ft. above the floor-level and in the centre of the structure, is 1 ft. square and 6 in. deep, with limestone blocks for the walls and kañjūr slabs above and below. The casket which I found in this chamber is a flat pyxis of grey schist, turned on the wheel and furnished with a detached boss on the top of the lid, which must have been fixed to it by means of cement (Pl. 50, *i*). The shape of the casket closely resembles that of a casket which I discovered some years ago in Ghaz Dheri at Charsada, and which was accompanied by a coin of Zeionises. Inside this casket was a small box of silver, 0·5 in. high, and in this, again, a still smaller box of gold, 0·56 in. high, which contained some minute fragments of bone (Pl. 51, *h*, *i*). There were also a few beads in the casket (Pl. 51, *j*), namely:

One tooth-shaped bead of faience, length 0·36 in.; one crystal neck of a goose, length 0·72 in.; one spherical and one double pentagonal faceted bead of green jasper, diam. 0·31 and 0·30 in.; one spherical bead of garnet, diam. 0·2 in.; one spherical bead of carnelian, diam. 0·22 in. Close by this stūpa were found two broken Gandhara reliefs, one from the coffered ceiling of a portico, the other part of a much-mutilated relief ('Stone Sculptures', ch. 36, nos. 87, 137).

The remarks made above as to the date of J 2 apply also to the neighbouring stūpa J 3, which, like it, is square in plan, measuring 15 ft. 4 in. along each side. It is standing to a height of 4 ft. 6 in. above the foundations, and is composed of rough rubble faced with kañjūr and adorned, like the previous example, with four pilasters standing on a well-cut base moulding. The drum and dome of this stūpa have entirely vanished. Close beside the base on the eastern side I found a *harmikā*, together with one of the umbrellas and part of the shaft which supported it. All three members are of kañjūr stone covered with lime stucco, which, in the case of the *harmikā*, is carved with scrolls and other patterns. The umbrella shaft is hollow and was no doubt strengthened with an iron bar inserted through the centre. A similar shaft was found in the monastery at Mohṛā Morādu, with traces of iron rust still adhering to it. Stūpa J 3

The relic chamber of stūpa N 7, constructed of neatly cut kañjūr blocks, was 7 in. square within by 1 ft. 11 in. deep. In it was the crystal lion (height 1·25 in.) which is figured in Pl. 49, *b*,[1] and beneath it a copper coin of Azes I of the type 'King seated on cushion and Hermes' and a casket of grey Gandhāra schist (height 3·19 in.) adorned on the outside with conventionalised lotus leaves (Pl. 50, *l*). Inside the casket was a small box of silvery bronze containing some minute relic bones, with two small pearls and a bead of bright blue glass paste. After falling to ruin this stūpa was rebuilt in the third or fourth century A.D., i.e. about the same time as the neighbouring stūpa, N 5, was erected. Stūpa N 7

On the stūpas N 3, G 8 and the base of the small stūpa faced with kañjūr in G 3, it is unnecessary to make any observations, as they are in all respects similar to the other stūpas of this period.

The stūpa Q 1, which stands immediately in front of the chapel R 1, is a square structure measuring 21 ft. along each side, with traces of projecting steps on its Stūpa Q 1

[1] Cf. *A.S.R.* (1914–15), Pl. XII, 9.

north. All that is now left of it is the lower part of the plinth, adorned with a torus and scotia moulding at its base and faced with neatly dressed square blocks of kañjūr. On each of its faces was a row of five pilasters, but scarcely anything survives of these except the base of the one at the north-east corner. The relics which were recovered from the interior of this stūpa were nothing more than ashes. They were contained in a tiny round gold casket, 0·5 in. high, which was placed inside a larger casket of schist stone, 1·87 in. high (Pl. 50, *g*). This latter casket, which is carved on the outside with lotus leaves and linear patterns, was placed in turn inside a plain stone bowl measuring 3·12 in. in diameter (Pl. 50, *h*). Besides the ashes, there were also, inside the gold reliquary, the following:

Four spherical garnet beads, diam. 0·2 in.; one axe-shaped coral pendant bead, length 0·31 in.; two pearls, diam. 0·1 and 0·08 in.; one small piece of silver.[1]

Apartments E 1, E 2, F 1–F 3, T 2–T 7

A range of buildings bounding the site on the west side evidently served as apartments for the monks, and are specially interesting as belonging to a period before the quadrangular monastery or *vihāra*, like the one at the corner of the site immediately on the north of it, had come into fashion, which, as I have already explained, did not happen until the first or second century A.D. Seeing that the Dharmarājikā Stūpa would be open at all times to the public, we can understand how the monks living in the cells like E 1 and F 3 would be exposed to public gaze, if they had the doors of their cells open, and why means were devised, according to the *Vinaya* texts, to give the monks a greater measure of privacy by the erection of screens, etc. Two of the chambers at the southern end of this range of buildings, namely, E 1 and E 2, are also interesting as containing the foundations of circular stūpas. When these foundations were first unearthed in 1913, I was at a loss to explain their meaning satisfactorily (*A.S.R.* 1912–13, p. 18), but since then my discovery of another stūpa, quite intact, in one of the cells at the monastery of Mohṛā Morādu has made their meaning clear. Evidently these two cells had been occupied by men of specially holy reputation, whose memory was commemorated by the erection of these stūpas inside their cells. In the case of E 1, no changes were made in the cell itself, as was also the case at Mohṛā Morādu. In the case of E 2, a wall was built on four sides of the stūpa, apparently with the idea of forming a narrow *pradakshiṇā* around it.

In the chamber F 1, I found a floor of glass tiles of bright azure blue, with a few other colours—black, white and yellow—mixed with them. These tiles are the same as those already alluded to as having been unearthed in the procession path of the Great Stūpa, and I think it most probable that they were brought from the procession path to pave this chamber, when the flooring in the former had fallen into disrepair, and was being laid with another kind of pavement (*vide supra*, p. 238). Similar tiles were also found in chapel A 1 at Kālawān, and these also I suspect may have come from the procession path at the Dharmarājikā. In the case of that chapel and of the chamber F 1 at the Dharmarājikā, it is evident that the tiles were not

[1] Cf. *A.S.R.* (1914–15), Pl. x, 9, 10 and 11.

laid in the floor until a relatively late date, probably the fourth or fifth century A.D., and it is also evident, from the irregular manner in which the colours and broken tiles were used, that they had not originally been intended to be laid there. The tiles measure 10·25 in. square × 1·12 in. thick, and are of transparent glass. (Cf. 'Glass Objects', ch. 35, no. 16.)

Minor antiquities in foregoing apartments

Other minor antiquities from this range of living-apartments included the following: 'Stone Objects', ch. 25, no. 91 (carved toilet-tray) and no. 116 (lamp with human-headed spout). Also from E2, a stone fragment with mason's mark in form of Kh. *tha* (*C.I.I.* II, p. 91, Pl. XVII, 5–6). 'Iron', ch. 27, no. 12 (bowl) and nos. 175 and 176 (staples). 'Shell', ch. 33, nos. 29 and 36 (bangles). 'Copper and Bronze', ch. 28, no. 368 (scale-pan) and no. 401 (leaf-shaped amulet). 'Finger-rings', ch. 31, no. 38 (bronze finger-ring set with jacinth).

The coins, which were more than usually numerous in the debris of these particular buildings, included single specimens of Azes II, Kadphises I, Kadaphes, Kadphises II, and Soter Megas; four of Kanishka and Huvishka; twenty-one of Vāsudeva; eight Sasanian of (?) Shāpur II; two of the same type as R.U.C. ch. 39, nos. 347–9; and one of about the same date showing a crude elephant on obverse with reverse defaced (cf. *A.S.R.* (1915–16), p. 36, no. 40). Besides the above there were three small groups, viz.: (*a*) from T5, 3 ft. below surface (no. 1,073 of 1917), comprising two of Kanishka, one of Huvishka and five of Vāsudeva; (*b*) from T2, 2 ft. below surface (nos. 614–16 of 1915), comprising three specimens of Vāsudeva; (*c*) from T2, 2 ft. below surface (nos. 702–4 of 1915), comprising three of Vāsudeva.

The beads, which numbered sixty-six, comprised eighteen carnelian (eleven spherical and seven oblate), six agate (three spherical and three barrel), one chalcedony barrel, one amethyst barrel, five lapis-lazuli (two disk and three wedge-shaped), one malachite cylinder, one hexagonal and one long barrel of crystal, and one pentagonal bicone of the same material, one steatite oblate, one grey and one white marble (spherical), six mother-of-pearl oblate disks, fifteen shell (two spherical, one oblate, three barrel, four disk, three cylinder, one tooth-shaped, one natural), one ebonite cylinder, three colourless glass (one spherical, one segmented and one conical fluted), one yellow glass segmented, one green ditto wedge-shaped, one faience gadrooned.

Tank

The rectangular tank immediately to the east of the stūpa K1 measures 21 ft. long × 10 ft. 10 in. wide × 7 ft. 1 in. deep; its walls are built of the rubble masonry characteristic of the Śaka period, the whole coated with lime plaster (Pl. 53, *a*). On the north side is a flight of steps descending into the tank, which may have been used as a bathing pool for the monks. The tank appears to have been in use from the Śaka period onwards, but must have been filled in prior to the erection of the stūpas K2 and K3, the foundations of which project well over the north end of the steps. There is evidence to show that these stūpas date from the period of Kanishka and Vāsudeva (p. 261 *infra*).

Building H

A little to the north-west of the foregoing is the shrine H, the shape of which suggests that it may have contained a figure of the dying Buddha, like the famous shrine at Kasiā. The original building on this site measures 35 ft. 11 in. long × 12 ft. 10 in. deep. Its superstructure was built of the coursed rubble kind of masonry which was employed in the temple at Jaṇḍiāl. This masonry is distinguished from small diaper masonry by the fact that rough chips of limestone of irregular shape are used to fill the interstices between the larger stones, while in the diaper masonry

the interstices are filled with thin, closely fitting layers of small stones, presenting a neat flat face. The foundations, on the other hand, are of random rubble. Inasmuch as random rubble continued to be used in later buildings, it is often difficult to determine from the foundations alone to what period a building belonged. In the case of building H, however, sufficient of the superstructure remains to make this date fairly certain. After the earthquake of the first century A.D. this original shrine was strengthened and enlarged by the addition of a contiguous wall immediately around three sides of it, as well as by a second wall enclosing a procession path around the latter and a portico in front, thus bringing the dimensions of the whole to 71 × 51 ft. Later on, when the level had risen several feet, some further additions were made in the portico in semi-ashlar masonry, and other repairs were carried out at a still later date in a later type of that masonry.

The only minor antiquities of interest found in this building were twenty-five debased silver coins of the Greek king, Zoilus II, which were brought to light beneath the foundations of the earliest chapel (R.U.C., ch. 39, no. 107; 'Bust of king and Pallas' type).

Circle of small chapels round Great Stūpa

After the great earthquake, which must have laid low most of these Śaka monuments, it is probable that the ruins were left untouched for some years, as, except in the case of the Great Stūpa dome, there is no evidence of any repair or rebuilding having been carried out in the coursed rubble type of masonry which was still in vogue at that time. However this may be, the next stage of building round the Great Stūpa is marked by the erection of a complete circle of small chapels, which are similar in plan as well as in purpose to those at Jamālgaṛhī in the Frontier Province. To-day it is against the Buddhist principles ever to destroy a stūpa or any other work of religious merit, and it may be presumed that the same practice obtained among the Buddhists in ancient times. Accordingly, when these chapels were built, the ruins of the small stūpas were suffered to remain, the ground between them being partially filled in with debris, and the walls of the new chapels carried over their tops.

Introduction of diaper masonry in place of rubble

These chapels, of which some of the best preserved are B9, B10, B7, D14, D12, D9, D6, D8 and D5, were built in the very distinctive style of diaper masonry which we met with in Sirkap and which appears, as I there explained, to have been first introduced at Taxila from the North-West Frontier during the Parthian domination. Examples of them, from the back, may be seen in Pl. 47, encroaching on the earlier round stūpas. The characteristic feature of this masonry is that it is composed of irregular boulders dressed on the outer face only and laid more or less evenly in rows with neat little piles of small stones filling the interstices between them (Pl. 55, nos. 4–6). Boulders with small chips between had, as we have seen, long been in use at Taxila for the construction of both walls and foundations, but up to about the middle of the first century A.D. the boulders had been less evenly dressed on the face and less carefully laid, and the chips between them had been of all sorts of irregular shapes, giving the wall the appearance of coursed rubble (cf. Pl. 55, no. 1). In the new diaper masonry, on the other hand,

care was taken to employ only thin flat stones, almost like small tiles, for the interstices. As the older rubble-like walls and the later diaper walls were both invariably faced with plaster, it is obvious that the purpose of the new type of masonry was not to improve its appearance, but to give it greater stability; and that it was introduced at Taxila as a direct result of the great earthquake can hardly be doubted. Later on, as we have already seen in connexion with the buildings in Sirsukh, this diaper masonry was again modified by inserting horizontal courses of ashlar between the rows of boulders, giving the boulders themselves a flat surface on the underside and using larger stones with hammer-dressed faces for the interstices. While, however, this diaper masonry came into general use for superstructures, rubble still continued to be employed in many buildings for the foundations, which thus, in the absence of any remains of the superstructure, do not afford a reliable criterion of age. For mouldings, pilasters, cornices and other decorative features, soft kañjūr stone was commonly inserted into the harder limestone diaper work.

Plan of chapels

At Jamālgaṛhī, the chapels built in a circle round the main stūpa were independent one of another, their walls being detached and a small space with converging sides left between them. The same plan also appears to have been adopted in the case of the earliest of the chapels round the Dharmarājikā; but as time went on the spaces between some of these chapels were converted into smaller shrines, and these, as well as numerous other additions and reconstructions, tended to destroy the regularity of the original plan.

Minor antiquities from chapels

As we might expect, the majority of the minor antiquities found in these chapels were votive offerings in the form of stone, terra-cotta and stucco sculptures. Starting with the chapels near the original north entrance to the procession path, these sculptures comprised the following:

From B5: 'Stone Sculptures', ch. 36, no. 23 (jamb of false niche); no. 146 (broken relief with turbaned figure). From B8: *ibid.* no. 182 (headless male figure). From B12: 'Stucco Sculptures', ch. 26, no. 77 (head of Bodhisattva). From B16: 'Terra-cottas', ch. 24, no. 171 (male head wearing turban). From B17: 'Stone Sculptures', ch. 36, nos. 97 and 140 (reliefs with Bodhisattva and attendant figures); no. 195 (unidentified relief of unusual character, showing the figures on different planes). From B18: *ibid.* no. 122 (relief of haloed deva or Bodhisattva from Miracle of Śrāvastī ?). From B19: *ibid.* no. 123 (another deva or Bodhisattva, from same scene, probably, as foregoing). From D5: *ibid.* no. 54 (phyllite frieze with acanthus leaves, etc.); no. 75 (broken frieze with Amorini supporting garland); no. 131 (head of woman). 'Terra-cottas', ch. 24, no. 165 (male head). From D8: 'Stone Sculptures', ch. 36, no. 165 (female head). From D12: *ibid.* no. 138 (fragment from relief depicting Cremation of Buddha). From S3: *ibid.* no. 25 (fluted pilaster).

Other small objects from these chapels included: tabular bead of carnelian from B1 chapel; an iron needle ('Iron', ch. 27, no. 208) from B4; a leaf-shaped lamp of grey schist ('Stone Objects', ch. 25, no. 111) from D8; and a small collection of beads from D6, viz. one oblate of carnelian; one nondescript of agate; one toggle of faience; one barrel, two disk, one cylindrical and one nondescript of shell; one spherical, two oblate, and two cylindrical of colourless glass; one oblate of blue glass; one cylindrical of green glass; and one disk of opaque yellow glass.

Entrances to procession path

With the Great Stūpa thus ringed with chapels, it became necessary to provide entrances to the *pradakshiṇā*. At first, these entrances were probably four in number, one opposite to each of the four stairways by which the berm of the Great Stūpa was ascended. Later on, however, the two entrances on the north and west were obliterated, their places being taken by chapels of semi-ashlar work, and only the two entrances on the east and south were kept open. What is left of the latter consists of only a few fragments, but these are enough to show that the gateways were erected about the same time as the earliest diaper chapels adjoining them, and that they were afterwards repaired in semi-ashlar at the time when the berm of the Great Stūpa was refaced.

Fire in procession path

From the scorched, calcined and shattered condition of the stonework on the inner faces of these early shrines, it is evident that there must have been a vast conflagration at some time in the procession path around the Dharmarājikā, and the question presents itself whether this conflagration was a wanton act of vandalism or accidental. In the case of some of the later Buddhist stūpas, which were destroyed by the White Huns in the fifth century A.D., their burnt and shattered condition can only be explained on the hypothesis that timber and other inflammables were piled up against the sides of the structures. It is possible, therefore, that the same thing may have been done at the Dharmarājikā by other and earlier foes. But the date at which this must have taken place was between the time when these and other contemporary buildings were erected and the time when the berm of the Dharmarājikā (which is not affected by the fire) was refaced—that is between about the latter part of the first century A.D. and the middle of the second century; and during this period we know of no anti-Buddhist foes at Taxila who are likely to have brought about such a disaster. What is perhaps more to the point is that other Buddhist buildings of this period at Taxila, including even those in the Dharmarājikā enclave itself, do not show the same signs of having been burnt, which we should certainly expect them to have shown, had the conflagration been due to intentional action on the part of an enemy. It seems more likely, therefore, that it was accidental; but here, again, the problem is not without difficulty, since it is hard to imagine how there could have been enough timber in these chapels to create such intense heat as that evidenced by the condition of the masonry; for it is scarcely likely that there was a roof over the *pradakshiṇā* itself (though this is not impossible), or that there was much other timber in the chapels save that required for the support of the roofs.

Other chapels and stūpas of diaper masonry

Apart from this ring of image chapels facing on to the Great Stūpa, there are a number of other chapels and a few stūpas in other parts of the enclave which are built in the same style of diaper masonry and doubtless belong to the same age, viz. the chapels L, R1, I2, I3, G1–G7, M2–M9, the extensions of shrine H already alluded to, and the stūpas M7, M10, M16, P1, N8, N7 (original fabric), and the extension of D4. Several of these are sufficiently interesting to merit individual description.

Building L

The building L, which stands south-west of the Great Stūpa, was a double-

chambered chapel, 34 ft. 8 in. square, standing on a plinth 3 ft. 6 in. high, access to which was provided by a flight of steps on the north side. All that is now left of it is the plinth walls constructed of diaper masonry of the large variety, but round about the ruin were found a number of Gandhāra stone reliefs which had evidently once had a place inside the building. At the time when I unearthed these sculptures I took the view that they were contemporary with the building itself, but further examination of the sculptures, coupled with the evidence of a like find of Gandhāra sculptures in a chapel at Kālawān, has satisfied me that these sculptures represent a variety of offerings dedicated from time to time at the Dharmarājikā and preserved in this chapel, which, like the Kālawān chapel, was specially reserved for this purpose. This means that, although some of the sculptures may be approximately contemporary with the chapel, which, to judge by its masonry, dates from about the end of the first century A.D., a few are older and many substantially later, but how much later there is nothing definite to show, though we shall probably not be wrong if we assign the bulk of them to the second century A.D.

The sculptures recovered from this ruin and from the nearby area comprise the following pieces described in chapter 36, viz.: Sculptures from building L

Ornamental door-jambs nos. 22 and 26; capitals, nos. 27, 28, 34, 35, 36; portion of frieze no. 41; leaf-canopies, nos. 42 and 43; kneeling figure holding bunch of leaves, no. 44; foliate cornice and friezes, nos. 56 and 57; pilasters adorned with flute player and other figures in relief, nos. 65, 66 and 70; frieze with row of inarched busts and vine scroll, no. 78; frieze with *kīrtimukha* and foliage, no. 80; frieze depicting Śyāma Jataka, nos. 90, *a*, *b*; panel depicting the Instigation of the Buddha, no. 93; fragments from panels of the 'Sleeping Musicians', nos. 98–100; Indra as Grass-cutter, no. 103; heads of Māra's soldiers, nos. 106 and 107; head of monk, no. 115;[1] presentation of offerings to the Buddha, no. 116;[1] the First Sermon, no. 118;[1] the conversion of Nanda, no. 120;[1] women adoring the Buddha, no. 121;[1] the Great Miracle at Śrāvastī, no. 132; monkey with a load on his back, no. 139; heads of Indra with characteristic toques, nos. 147, 148 and 149; standing image of the Bodhisattva Siddhārtha, no. 152; heads of Bodhisattva, nos. 162, and 171;[1] and the much-dilapidated fragment, no. 199.

Numerous other pieces of Gandhāra sculpture found among the ruins round about—particularly in the ruins of chapels D3 and D5—may well have come from the same building L, since it is obvious that in the course of the centuries that have elapsed since the destruction of the building, many of its contents are likely to have become scattered over the site. But whatever other sculptures may originally have belonged here, a very little study of the collection from the building L itself will make it clear that the pieces belonging to it are far too varied in style, as well as in design and dimensions, to have formed a homogeneous group or to have been produced at one and the same time. Here and there a few pieces may, it is true, have belonged together, as, for example, nos. 27, *a*, *b*, *c*, and no. 65, in spite of the slight difference in their size, while the fragments nos. 98, 99 (from south of J 1) and

[1] Nos. 115, 116, 118, 120, 121 and 171 were found in the debris of D3 at the north-east corner of building L, from which they had no doubt come; no. 152 in the *pradakshiṇā patha* close by (cf. p. 239).

no. 100 evidently come from a single panel, as also do nos. 106 and 107, but it is quite impossible to imagine all the heterogeneous pieces which make up this collection as having been designed by the original architect for the decoration of chapel L. The only possible explanation seems to be that they are a haphazard lot of sculptures turned out at different times and by different artists in the ateliers of Gandhāra, and purchased by pilgrims or others for dedication at the Dharmarājikā.

Among these sculptures are four pieces bearing Kharoshṭhī inscriptions, and a fifth inscription is engraved on a lamp of grey phyllite stone from Gandhāra, which was found not far away. The inscriptions, which are set out below, are short records only, but they are instructive for two reasons: first, because they confirm the conclusion arrived at on other grounds that the various sculptures were the gifts of different donors; secondly, because the Kharoshṭhī characters used in them appear, in the judgement of Prof. Konow, to be later than those of the silver scroll inscription of the year 136 (pp. 256–7 *infra*), but earlier than Kanishka (*C.I.I.* II, p. 89, xxxv), and they thus help to corroborate my view as to the age of these sculptures, as well as of the date of Kanishka. Let me add that to judge by the character of their masonry, the two chapels L, to which these sculptures belong, and G 5, in which the silver scroll was dedicated, were approximately contemporary, and this would lead us to infer that the inscribed sculptures were of later date than the chapel itself. The inscriptions are reproduced in facsimile in *C.I.I.* II, Pl. XVII, no. 5.

(1) On side of lamp from debris of D 8. Dh. '12–112 = 'Stone Objects', ch. 25, no. 111 (*q.v.*).

(2) On two fragments of frieze, 25·5 in. long. Dh. '12–593.

e pryae at(va)ṇasa ñatimitrasalohidaṇa
arogadakshiṇae Hoḍrcana. o.

'In honour of... for the bestowal of health on his kinsmen, friends and blood relations... of the Hodreas.'

(3) On a small fragmentary stone, length 6·5 in. Dh. '12–784.

mitrae Iṁdra(seṇa)sa bhar(yae)

'Of Mitra, the wife of Indrasena.'

(4) On a fragmentary frieze, length 5 in. Dh. '12–60*b*.

(Iṁdra)seṇasa (ku)ṭib(i)(ṇia).

'Of the wife of Indrasena.'

(5) On a corner fragment of a frieze decorated with lion masks alternating with honeysuckle, length 11 in.

Saṁvatśa... treṇa.

This may have been part of no. 2 inscription *supra*.

For the above readings, see *C.I.I.* II, pp. 89–91, and *A.S.R.* (1912), p. 17 and Pl. XIV, *a–f*.

Along with this considerable collection of Gandhāra sculptures I also found in building L the very interesting terra-cotta head described in the chapter on 'Terra-cottas', ch. 24, no. 164. In style this head closely resembles the stucco heads found in the courtyard of the apsidal temple D in Sirkap, and there can be no doubt that it is of approximately the same age, viz. middle of first century A.D. or a little later.

Chapels R 1, R 2, R 3

Immediately to the north of the chapel L, is the ruin of another very interesting chapel, R 1, built on to the back of the circular stūpa R4. In the little group of structures here several successive periods of buildings are represented. The stūpa R4 itself dates, as we have already seen, from the Śaka period in the first century B.C., and, not long after its erection, it seems to have been enlarged by the addition of a square base. Then came the earthquake (between A.D. 20 and 40) and after that another square plinth, faced with kañjūr and presumably designed to support a stūpa which has since disappeared, was built partly over the ruins of R4 but mainly to the west of it. This plinth measures about 16 ft. 6 in. square and was adorned with the usual pilasters, moulded architrave and dentil cornice. The west face of this plinth can be seen in Pl. 54, *a*, and the top of the south face appearing above the low rubble wall in Pl. 56, *b*. Still later, about the beginning of the second century A.D., two square pylons were added in a somewhat late type of diaper masonry on the west side of this kañjūr plinth, and at the same time a shallow portico or chapel was formed against this western face by running out two short walls at the north-west and south-west corners of the stūpa, while another chapel was also built over the top of the kañjūr plinth. Lastly, the portico was enlarged to about double its size by prolonging these walls further to the west and returning them north and south so as to close in the portico. It is necessary to describe the sequence of these various additions and reconstructions in some detail, because they have an intimate bearing on the date of some interesting and instructive stucco reliefs which decorate the western face of the kañjūr plinth and the two pylons mentioned above. These reliefs are later than the building of the stūpa base, but contemporary with the pylons, having evidently been modelled at the time when the latter were added, and as the latter are built of a rather late type of diaper masonry, the reliefs may be assigned with some confidence to the early part of the second century A.D. This date is important, because the reliefs are, beyond question, products of the Gandhāra School of Art, and accordingly furnish us with another link in the chain of evidence determining the age when that school was flourishing. Of the scenes illustrated in Pl. 54, *b*, none is sufficienrly well preserved to admit of identification. There are, however, two groups of these reliefs in the small recesses between the pylons and side walls which, thanks to their protected position, are much better preserved, but which are in so confined a space that they could not, unfortunately, be photographed. One of these—on the south face of the south pylon—depicts the 'Departure of the Buddha' from Kapilavastu, accompanied, as was usual in the Gandhāra School, by his *vajra*-bearer; the other—on the north face of the north pylon—depicts the horse Kaṇṭhaka taking leave of his master. The animal is kneeling to kiss the feet of Siddhartha, while Chandaka and another figure on the one side, and the *vajrapāṇi* on the other, are looking on.

Stucco reliefs of Gandhāra School

So far as I am aware, these are the only stucco reliefs of their kind in the true Gandhāra style that have escaped destruction at Taxila. Thousands of stucco reliefs have, of course, been found at Taxila and on many other sites in the North-West adorning the walls of Buddhist stūpas and monasteries, but the vast

majority of them belong, not to the Gandhāra School, but to the Indo-Afghān School of the fourth and fifth centuries, while the few which are of more ancient date—as, for example, the stucco images enshrined in the niches of stūpas K 1 and N 4—are not only of a different character but are more modern by at least two or three generations (cf. ch. 26, p. 514 *infra*). This is not the place to discuss the differences between these Gandhāra reliefs and the later stucco reliefs of the Indo-Afghān School, but it may be noted in passing that scenes such as these, which are taken from the life of the Buddha or from the *Jātaka* stories, are never illustrated among the sculptures of the later school, their place being taken by endless repetitions of Buddha and Bodhisattva figures with their attendant *devas* and human devotees; and it may also be noted that the proportions and modelling of the individual figures, as well as the method of composing them in relation to one another, are radically dissimilar.

Other sculptures from same spot

Besides the above reliefs, my excavation of this portico brought to light a number of stone stucco and terra-cotta pieces from the debris which had accumulated in and around this chapel. Among these the following are noteworthy:

(1) An almost free-standing female statuette of the Gandhāra School, of phyllite stone once covered with gold-leaf ('Stone Sculptures', ch. 36, no. 89). The type is probably taken from that of a Greek Nike, the heavy anklet on the left ankle being, of course, an Indian addition. This statuette, in the somewhat early Gandhāra style, probably came from the nearby chapel L. The remaining sculptures, which are of stucco or terra-cotta and date from the fifth century A.D., may have been dedicated in shrine R 1 itself, viz.: (2) Stucco figure seated in the *lilāsana mudrā*, holding in left hand a bow! which contains some uncertain object; height 6·75 in.; evidently the figure of an attendant from the right side of a Buddha or Bodhisattva image. Dh. '14–174. Cf. 'Stucco Sculptures', ch. 26, no. 82 and Pl. 160. (3) Stucco head, height 4 in.; see *ibid.* no. 79. (4) Stucco head of Buddha figure, height 6 in.; illustrated in *A.S.R.* (1914–15), Pl. VI, *e*. (5) Stucco head, height 3·5 in.; wears ear-rings and hair bound with fillet and taken back in long curls over ears in the manner of the youthful Dionysus or Ganymede. Traces of red colour on eyelids and lips; illustrated in *A.S.R.* (1914–15), Pl. VI, *f*. (6) Stucco head of Buddha (?), height 6 in., illustrated *ibid.* Pl. VII, *b*. (7) Similar, height 5·5 in.; flat at back, and evidently belonging to a figure in high relief; illustrated *ibid.* Pl. VII, *c*. (8) Similar, height 6 in.; traces of red colour on eyelids and lips; illustrated *ibid.* Pl. VII, *d*. (9) Terra-cotta head of female, described under 'Terra-cottas', ch. 26, no. 168, and illustrated on Pl. 138. (10) Inscribed bowl of fine cast bronze, described under 'Copper and Bronze Objects', ch. 28, no. 285, and illustrated on Pl. 175.

It remains to add that a few pieces of worked grey schist stone of the same kind as that used in the Gandhāra School were found imbedded in the masonry of the walls of this chapel. The stones in question appear never to have had their carving finished, and they go to show, therefore, that artists were brought here from Gandhāra to execute stone as well as plaster reliefs on the spot. These then would be discarded pieces, which the builders found convenient to use up in the construction of the chapels R 1–R 3.

Apsidal temple I 3

On the western side of the site the most striking edifice in old days must have been the apsidal stūpa-temple I 3. It is built of the same variety of large diaper masonry as that used in building L above (Pl. 55, no. 5) and dates from early

Kushān times—probably from the close of the first century A.D. In plan it is generally similar to the great apsidal stūpa-temple in Sirkap, from which it may well have been copied, but in this case the interior of the apse is octagonal instead of round, each side of the octagon measuring about 8 ft. Inside the apse are the remains of an octagonal stūpa of kañjūr stone, 2 ft. 6 in. below the base of which is a floor, which seems to have been laid before the existing apsidal temple was built. From what remains of the nave, it appears to have consisted of nothing more than a passage corresponding in width with one side of the apsidal octagon and flanked by abnormally thick walls (9 ft. thick) on either side. This temple is of special interest as being one of the very few structural buildings of its kind known to exist in India, and the first of its type to be discovered in Northern India, though it has since been put in the shade by the discovery of the larger temple in Sirkap (cf. pp. 150 ff. *supra*).

From the adjoining chapel I 2 came an interesting Gandhāra relief, reminiscent of an *Adhyeshaṇa* scene ('Stone Sculptures', ch. 36, no. 141).

Chapels G 1–G 6

Opposite the entrance to the apsidal temple is a complex of chambers, G 1–G 6, the whole block measuring 111 ft. 4 in. × 67 ft. 7 in., and rising in places to a height of some 6 ft. above the ground-level. The earliest part of this group is the square stūpa of the Śaka period (G 3), to which reference has already been made. Next in chronological order come the three chambers at the north-east corner, G 5, G 6 and G 7, which are built of small diaper masonry and belong to the early Kushān period (Pl. 55, no. 2). The other chambers, G 1–G 4, facing towards the south, exhibit three periods of construction, the earliest walls being in small diaper, the next in large diaper, and the last, which are built on their ruins at a height of some 3 ft. above the old floor, in semi-ashlar masonry. The chambers G 1, G 2 and G 4, were orientated at a slightly different angle from the chambers G 5–G 7, against the back of which they were built. All these chambers appear to have been chapels. In the chamber G 4 were numerous kañjūr blocks belonging to a small stūpa.[1] These blocks were scattered in a heap on the floor, defying any attempt to reconstruct the design of the stūpa from which they had fallen. In one of the blocks were found two relic caskets. One of the caskets is of dark steatite (height 1·75 in.), of the shape of a flat Greek *pyxis* ornamented with incised swastika, lotus and cross-hatched designs (Pl. 50, *j*). Inside it was a smaller silver box (height 0·62 in.), roughly ornamented and containing a smaller gold casket (height 0·5 in.), within which were some thin pieces of gold leaf and two pieces of calcined bone. The other casket is of chloritised mica schist (height 2·37 in.), furnished with a small handle on the lid and adorned with incised concentric lines (Pl. 50, *k*). In it was a smaller casket of ivory, and in the latter a still smaller one of the same material containing a reliquary of gold (height 0·37 in.) adorned with rough geometric and floral patterns. Inside this gold reliquary were a piece of calcined bone, a small gold spherical bead, diam. 0·1 in., and forty-three small pearls of various sizes and shapes, diam. 0·05–0·08 in.

[1] Cf. *A.S.R.* (1912–13), Pl. XI, *b–f*.

Find in chapel G 5

In the chapel G 5 I found one of the most interesting relics yet discovered in this part of India. The find was made near the back wall of the chapel opposite the Great Stūpa and about a foot below the original floor. It consisted of a vase-like casket of grey micaceous schist with a silver vase inside, and in the latter an inscribed scroll of silver and a small gold casket containing some minute bone relics. A heavy stone placed over the deposit had unfortunately been crushed down by the fall of the roof and had broken both the casket and the silver vase but had left the gold reliquary uninjured, and chipped only a few fragments from the edge of the scroll, nearly all of which I was fortunately able to recover by careful sifting and washing of the earth. The cleaning and transcription of this record was a matter of exceptional difficulty as the scroll (Pl. 53, *c*), which is only 6·25 × 1·35 in. and of very thin metal, had been rolled up tightly, face inwards, in order that it might be enclosed in the silver vase; moreover, the metal of which it is composed is silver alloyed with a small percentage of copper, which had formed an efflorescence on the surface of the extremely brittle band, with the result that I could neither unroll it without breaking it, nor subject it to the usual chemical treatment. With the help of acid, however, applied with a zinc pencil, I was able to remove the copper efflorescence and expose, one by one, the punctured dots of the letters on the back of the scroll, and then, having transcribed these with the aid of a mirror, to break off a section of the scroll and so continue the process of cleaning and transcription. In this way I succeeded in making a complete copy of the record from the back of the scroll while the letters were yet intact. Afterwards I cleaned in like manner and copied the face of each of the broken sections and was gratified to find that my second transcript was in close agreement with the first. This valuable record, which is in the Kharoshṭhī character and dated in the year 136 (*c.* A.D. 78), tells us that the relics were those of the Lord Buddha. It reads as follows:

Inscription of the year 136

L. 1: Sa 100. 20. 10. 4. 1. 1. Ayasa Ashaḍasa masasa divase 10. 4. 1., iśa divase pradistavita Bhagavato dhatu(o) Ura(sa)—

L. 2: kena (Iṁ)tavhria-putrana Bahaliena Noachae nagare vastavena tena ime pradistavita bhagavato dhatuo dhamara—

L. 3: ie Tachhaśie tanuvae Bodhisatvagahami maharajasa rajatirajasa devaputrasa Khushaṇasa arogadachhinae.

L. 4: sarva-budhana puyae prachega-budhana puyae araha (ta*)na puyae sarvasa (tva*) na puyae mata-pitu puyae mitra-macha-ñati-sa—

L. 5: lohi(ta*)na puyae atmano arogadachhinae nianae hotu a(ya) de samaparichago.

'In the year 136 of Azes, on the 15th day of the month of Āshāḍha, on this day relics of the Holy One (Buddha) were enshrined by Urasaka, scion of Iṁtavhria,[1] a Bactrian, resident of the town of Noacha. By him these relics of the Holy One were enshrined in his own Bodhisattva chapel at the Dharmarājikā stūpa at Takshaśilā, for the bestowal of health upon the great king, king of kings, the Son of Heaven, the Kushān; in honour of all Buddhas; in honour of the individual Buddhas; in honour of the Arhats; in honour of all sentient beings; in honour of

[1] Perhaps Intaphernes, but the reading is doubtful.

(his) parents; in honour of (his) friends, advisers, kinsmen, and blood-relations; for the bestowal of health upon himself. May this thy right munificent gift lead to Nirvāna."

This is not the place to discuss phonetical, grammatical and other features of this inscription, which have been fully dealt with by Prof. Sten Konow in vol. II of the *Corpus Inscriptionum Indicarum*, but something must be said here about the word *ayasa*. In my first publication of this inscription I took this word to mean 'of Azes' and thought that it denoted that the era used in the record was associated with the name of Azes I. My view was endorsed by Prof. Rapson,[2] but was challenged by the late Dr Fleet and by Prof. Konow in his publication of the inscription in the *Corpus*, where he explained *ayasa* as corresponding to the Sanskrit *adyasya* and interpreted the term as indicating that there was in that particular year a second intercalated month Āshāḍha. My subsequent discovery of another inscription of the year 134 at the monastery of Kālawān, proved that this view of Prof. Konow was untenable and he has since accepted my explanation of the word as meaning 'of Azes'. Further remarks on these inscriptions, and the contribution which they make to the chronology of the period, will be found in chapters 2 and 14, pp. 48, 53 and 327.

In connexion with this block of chambers, G 1–G 6, it remains to notice the following minor antiquities which were found inside or near them: Sculptures, etc., from G 1–G 6

(1) Stucco head of Buddha, 8 in. high, of the late Indo-Afghān School, found in debris on the east side of G 3. Of a rather striking type, with the upper eyelid slightly more open and the mouth more fleshy than is usually the case. Cf. 'Stucco Sculptures', ch. 26, no. 74, and illustration, and *A.S.R.* (1912–13), p. 21, Pl. VI, *b*.

(2) Head of Bodhisattva of phyllite stone of the Gandhāra School, 4·5 in. high. For illustrations, see *ibid.* Pl. IX, *b*, 1.

(3) Part of relief of phyllite with Indo-Persepolitan pilaster ('Stone Sculptures', ch. 36, no. 37). From G 4.

(4) Bearded male head of terra-cotta, 10 in. high ('Terra-cottas', ch. 24, no. 166). This head, which was found in G 6, is of a particularly striking type, very different from the ordinary conventional types of the Indo-Afghān School. It is a bearded head of a middle-aged man, made of thoroughly well-burnt clay, purposely and not accidentally fired. The hair, which is long and taken back from the forehead, is left undefined at the back of the head, evidently because the figure was in high relief and not intended to be seen behind. The brows are soft; the eyes wide open; the lips full; the beard and the hair are shown in relatively fine strands, as contrasted with their more massy treatment on the heads of the Parthian period from Sirkap. At the time when this head was unearthed in 1913, I inclined to the view that it showed more Hellenistic influence than was likely to be found in the early medieval period and I suggested that it was to be ascribed to the first century A.D. Since then, however, our knowledge of the Indo-Afghān School has vastly increased, and we can be quite confident in assigning it to the fourth to fifth century A.D.[3]

[1] This inscription was first published by the writer in *J.R.A.S.* (October 1914), pp. 973–86. Cf. also, *ibid.* (1915), pp. 155 ff., 191 ff., 314 ff.; *J.A.* XI, V, pp. 281 ff.; *Ind. Ant.* (1916), pp. 120 ff.; *SB.* (1916), pp. 787 ff.; *Ep. Ind.* XIV, pp. 284 ff., and *C.I.I.* II, pt. 1, pp. 70–7, where the inscription is examined with great erudition by Prof. Sten Konow.

[2] *C.H.I.* I, p. 582.

[3] Cf. *A.S.R.* (1912), p. 20, no. 3, and Pl. V, *d*.

(5) Rectangular lamp of micaceous schist with lotus pattern round body ('Stone Objects', ch. 25, no. 117). From G 3.

(6) Medallion of grey terra-cotta with head in alto-rilievo ('Terra-cottas', ch. 24, no. 136). From G 6.

(7) Three shell beads from G 4, viz.: one rectangular spacer, one long barrel and one star-shaped spacer.

(8) Two small groups of Vāsudeva's coins. One group, which was found in G 3 (6 ft. below surface), comprised three coins of the 'Seated goddess' type and two of the 'Śiva and bull' type. The other, which was found in G 4 (3 ft. below surface), comprised five coins of the 'Seated goddess' type.

Stūpas T 1 and T 12

Outside the chapel G 5, on its north side, are the bases of two small stūpas, T 1 and T 12, built of rough rubble with a facing of kañjūr. As the chapel G 7 was built above the corner of T 12, it may be inferred that the latter was a substantially older building, and this inference is borne out by a relic casket which I found in the debris of T 12 and which had no doubt come from the relic chamber of this or the neighbouring stūpa, T 1 (Pl. 50, *m*). The casket is of grey schist, 2·75 in. high, carved on the outside with lotus leaves, and very similar in shape and decoration to other relic caskets of the first century A.D., notably those from the late Śaka stūpa in Block G of Sirkap, and from stūpa N 7 at the Dharmarājikā. Inside the casket was a small box of silver, and inside the latter a smaller one of gold containing a relic bone (Pl. 51, *k*, *l*).

The stone casket also contained a copper coin of Kadphises I ('Bust of Hermaeus and Heracles'), four rosettes of thin gold sheet, three fragments of thin gold and the following beads: three spherical gold beads, diam. 0·3 in.; six pearls, diam. 0·25–0·05 in.; one spherical and one plano-convex eye-shaped bead of garnet, diam. 0·22 and 0·4 in.; two barrel beads of banded agate, 0·3 and 0·45 in. long; one toggle bead of carnelian, 0·35 in. long; one spherical of malachite, diam. 0·2 in.; two coral tubular, 0·17 in. and 0·2 in. long; one heart-shaped bead of burnt lapis-lazuli, 0·3 in. long; one barrel bead of crystal quartz, 0·7 in. long; two glass barrel beads, 0·15 and 0·25 in. long; one unfinished tabular bicone of jacinth, 0·3 in. long.

Chapels M 3, M 8 and M 9

Of the neighbouring group of small rectangular chapels, M 3, M 8 and M 9, there is little to be said except that the diaper masonry of which they are built is a somewhat later type than that found in the preceding group. It approximates to the second type of diaper work as exemplified in the outer ring chapels, S 6, B 5, B 23 and R 3, round the Great Stūpa (Pl. 55, nos. 4 and 9) rather than to the earlier and finer work which is found in the inner ring chapels such as D 5, D 1, B 9, etc. and in the apsidal stūpa-shrine I 3. We may infer, therefore, that these chapels date from the first half of the second century A.D.

The only small objects of note that these buildings yielded were two broken Gandhāra reliefs. One, from M 8, portrays a female figure with a spouted water-pot in her left hand ('Stone Sculptures', ch. 36, no. 187; for illustration, cf. *A.S.R.* (1914–15), Pl. XII, *f*). The figure, which is unusually well modelled about the body, evidently represents one of Māyā's attendants either in the Birth Scene or in the scene of Māyā's Dream (cf. 'Stone Sculptures', no. 92). The other, from M 3, is a piece of a cornice, decorated with a running vine scroll (*ibid.* no. 53).

At the back of the above group of chapels are three small square stūpas (M 7, M 12 and M 16), which appear from their orientation to antedate the chapels, but probably not by many years. They are faced with square kañjūr masonry on a rubble core, and might therefore go back to the Śaka-Parthian period, but this type of construction continued in vogue for long afterwards, and a bevelled torus moulding round the base of M 12 suggests that they date rather from early Kushān times.

Stūpas M 7, M 12 and M 16

The stūpa P 1 is a solid structure of large diaper masonry of a noticeably regular pattern. It is standing to a height of about 7 ft. 6 in. and measures 25 ft. 4 in. × 24 ft. 10 in., with a projecting flight of steps on its south side, facing the Great Stūpa. A simple torus and scotia moulding of kañjūr stone runs round the base; otherwise the whole structure is of the hard local limestone, once faced with stucco. When intact, the plinth had an elevation of over 8 ft. and was substantially higher therefore in proportion to its size than the square stūpa plinths of the preceding Śaka period; the flight of steps, too, by which it was approached was, of course, proportionately longer.

Stūpa P 1

Against the north face of this stūpa are the remains of two colossal figures of the Buddha, seated side by side. The plinth on which they rest is of kañjūr stone, 13 ft. 1 in. × 2 ft. 4 in. and 2 ft. 10 in. high. The statues, which are headless, rise 4 ft. 3 in. above the plinth; they are constructed of small blocks of stone in mud faced with a double coating of lime plaster, in which the details are worked. They are portrayed with the hands resting in the lap, in the *dhyāna-mudrā*. Dating from the fourth to fifth century A.D., they are more modern by some two centuries than the stūpa itself, but obviously older than the chapel P 2, which was subsequently built close up against them.

Two colossal Buddha images

Apart from their peculiar diaper masonry, there were several noteworthy features that distinguished the religious architecture of the Parthian and Early Kushān periods. One of these was the temporary adoption of the apsidal stūpa-chapel — a type of building that had long been associated with the Buddhist *saṅghārāmas* of India proper, and many fine examples of which have survived among the rock-hewn temples of Western India. A second was the introduction—probably from Gandhāra—of small image-chapels of rectangular shape, either disposed in a ring round about the procession path of the Great Stūpa or scattered, generally in small clusters, more or less indiscriminately about the site. Thanks also to the contemporary development of the Gandhāra School, images of the Buddha and the Bodhisattvas and reliefs illustrative of the Buddha's last life and of his previous births now came into prominence, and image worship began to supplant the aniconic worship of the stūpa. As to the stūpa itself, there was a tendency at first to increase the height of the plinth and correspondingly to lengthen the stepped ramp by which it was ascended; but later on greater variety of form and more light and shade were imparted to the plinth by breaking up its perpendicular faces into two or more low, diminishing terraces, and adorning the latter with squat stunted pilasters, usually of the Corinthian order. This, too, was a novelty which Taxila probably

Features of Buddhist architecture during Parthian and Early Kushān periods

owed to the architects of Gandhāra. Lastly, it was during this 'diaper' period that the self-contained, walled-in monastery, which figures so largely among Buddhist remains of the early medieval age, first began to take shape. This last, however, is a development which, though clear enough in other nearby sites, is not illustrated, in its earliest phase, among the excavated remains at the Dharmarājikā itself.

Evolution of masonry

It need hardly be said that the builders of ancient Taxila were quite familiar with squared ashlar masonry and thoroughly aware of its advantages over diaper work. The reason why they had recourse to the latter was simply that the labour of dressing the peculiarly hard, almost flint-like, local limestone into squared blocks was excessive, and they were able to save much of this labour by limiting the dressing to the exposed surfaces of the large boulders and then filling in the interstices between them with the small chips left over from this operation. They were to learn by experience, however, that walls built in this way, though eminently superior to the old rubble work, still fell far short of being really stable, and that they could be greatly improved by inserting horizontal courses of small squared stones between the boulders, and giving the latter a flat, even bed, while at the same time increasing the size of the small interstitial stones and roughly dressing up their surfaces. The story of stone masonry at Taxila from the first to the fifth centuries A.D. was, in fact, merely the prolonged effort to emulate ashlar work at the least possible expense: that is, by the avoidance of any more chiselling or hammer-dressing than was absolutely necessary.

Varieties of masonry exemplified

How the builders achieved their purpose will be clear from the typical examples arranged in sequence on Pl. 55. Fig. 1 shows the square rubble plinth of the Śaka stūpa D 2 (first century B.C.), with the kañjūr ashlar work of the drum above; and, to the left, the corner of the early diaper chapel D 5. Fig. 2 shows the rubble foundation of the chapel G 6, with diaper work of the early Kushān period above. The date of this chapel, as determined by the silver scroll inscription of the year 136, is about A.D. 78. Similar diaper work is found at Kālawān in stūpa A 4 and chapel A 14, etc. Fig. 3 is a specimen of nondescript rubble walling on the site of the northern monastery. It is made up of the *disjecta membra* of earlier structures, and dates from the early medieval period (? sixth century A.D.). Fig. 4 shows, on the left, a characteristic wall of early diaper in chapel B 9 (middle of first century A.D.), and, on the right, a wall of later rough diaper in chapel B 5 (early part of second century A.D.). Figs. 5 and 6 are other examples of early fine diaper—the former in the apsidal temple I 3; the latter in the chapel D 5, a corner of which is visible to the left of no. 1. Both date from about the middle of the first century A.D., but no. 6 already shows a tendency on the part of the masons to lay the boulders in more regular horizontal courses. In Fig. 7, which represents a corner of stūpa P 1, this tendency is still more marked and the interstitial stones between the boulders are becoming slightly larger. This stūpa I assign to the last quarter of the first century A.D., not far removed in date from the chapel G 6 (Fig. 2). The next photo, Fig. 8, is reproduced here because it shows a bit of diaper walling of this same period in the chapel R 1, with some stucco reliefs in the typical Gandhāra style

attached to its face, and it is of value, therefore, as evidencing the date of these reliefs. In the following examples, nos. 9 and 10—the former from one of the outer ring of chapels, B23; the latter from alongside the south gateway of the Great Stūpa—we see a later and coarser stage of diaper work in which the exposed faces of the boulders are more carelessly dressed and the interstitial stones are bigger and tending more and more towards forming squared ashlar courses between the irregular boulders. These two examples are assignable to the first half of the second century A.D. Finally, in no. 11, a wall of chapel R7, we have the fully developed semi-ashlar work with a horizontal course of squared ashlar intervening between the lines of boulders; and in no. 12—from the chapel P2—a still further development, in which the ashlar course is duplicated. The former of these is assignable to the second half of the second or to the third century A.D.; the latter probably to the fourth century A.D.

While the foregoing examples are sufficient to illustrate the chief types of lime-stone masonry in vogue at Taxila, it should be added that there are other varieties also which are either transitional between these types or which cannot strictly be co-ordinated with any of them. These other varieties will be noticed in connexion with the monuments to which they belong.[1]

Group of second-century stūpas

To return, however, to the buildings in the stūpa area. The third group that we have to consider dates from the period immediately following the displacement of diaper by semi-ashlar work—a change which, as indicated above, seems to have taken place in the latter part of the second century A.D. The group comprises the stūpas K1, K2, and K3, P3 and P6, and N4; to which is to be added the berm face of the Great Stūpa and perhaps the earliest part of the stūpa J1, though this may be of somewhat later date. The first five of these structures stand on three sides of a tank of the first century B.C. (p. 247 *supra*), and they could not have been built until after this tank had ceased to be used and been filled in, since the platforms of two of them (K2 and K3) extend over the northern end of it. A photo of this tank is reproduced in Pl. 53, *a*. To the left of the picture its western wall can be seen built of rubble with a coating of lime stucco covering the lower part. Above, and set back a few feet from the edge of the tank, is the plinth of the stūpa K1, while at the northern end of the tank are remnants of the steps which descended into it, and, above them, some ashlar masonry surmounted by a single course of semi-diaper; and above this, again, all that has survived of the plinth of K2. The ashlar masonry is modern, having been inserted by me when the tank was excavated, in order to support the semi-ashlar foundations of K2 and K3; the rest is ancient. I mention these details in order to prevent any misunderstanding in regard to this ashlar walling, and because the presence of two coins of Kadphises I and one of Soter Megas in the debris inside the tank make it clear that the tank could not have been filled in until after the close of the first century A.D. or later.

Characteristic features of their architecture

The architecture of this small group of stūpas is quite distinctive. The basis of the masonry is semi-ashlar limestone with soft kañjūr inserted for the pilasters,

[1] Cf. in particular the Akhaurī, Kālawān, Pippala and Jauliāñ groups.

entablature, base mouldings and niches, just as it was in the older diaper structures; but in these stūpas kañjūr is also freely used along with limestone in the face of the wall, thus giving it a patchy appearance, though this would not of course have been visible in the old days when the whole was faced with plaster. Other characteristic features which are common to the two principal stūpas of this group, K 1 and N 4 are: (1) the terracing of the square plinths was bolder than in earlier examples; (2) there was a single trefoil niche containing an image of the Buddha in the centre bay on each side of the lowest terrace; (3) the pilasters between the bays were not so slender as in the Śaka period; (4) instead of being rounded, the base torus moulding of kañjūr stone was bevelled in three faces, but the plaster coating over it was rounded; (5) the 'Hindu' brackets above the pilasters were exceptionally long, and the brackets of the dentil cornice above the architrave noticeably deep; (6) the stucco images in the central niches were, so far as could be judged from the few remains that have survived, modelled with conspicuous skill and feeling, and were stylistically superior to the majority of such images which adorn later stūpas of the Indo-Afghān School.

Stūpa K 1

Stūpa K 1 (cf. Pl. 57) stands on a platform of limestone blocks, 30 ft. 1 in. square and projecting 2 ft. 5 in. beyond the plinth of the stūpa. The lower terrace of the latter has an elevation of 5 ft. 3 in.; the upper terrace, which recedes back from it 3 ft. 11 in., an elevation of 2 ft. 2 in. The lower terrace is divided along each side into seven bays by eight Corinthian pilasters set on a torus and scotia moulding and surmounted by notched Hindu brackets, architrave and dentil cornice. In the central bay on each side is a deep niche ensconced in a trefoil arch, in which was a seated figure of the Buddha executed in lime stucco. On the north side, thanks to the erection of some small chapels close up against the face of the stūpa, both the niche and the Buddha image are relatively well preserved (Pl. 57, *b*),[1] but it should be noted that the ornamental details in plaster (e.g. the flat 'bead-and-reel' moulding near the top of the architrave and the sunk panels in the face of the pilasters) belong to a later renovation, which was probably carried out very shortly before this face of the stūpa was walled up. These details bear no relation to the carving on the kañjūr stone beneath.

Row of small chapels on north side

The row of small chapels erected against the north face of this stūpa are constructed of semi-ashlar masonry of a somewhat late pattern, and stand on a common base decorated with trefoil arches alternating with doorways with sloping jambs, of the same pattern and probably of about the same date as those above the berm of the Great Stūpa.

Stūpa N 4

The stūpa N 4, to the north-north-east of the Great Stūpa (Pl. 56, *c*), so closely resembles stūpa K 1 in size and every other detail that it may be regarded virtually as a duplicate. That it was built at the same time and probably by the same architect, can hardly be doubted.

Alongside this stūpa were four pieces of Gandhāra reliefs, viz. two fragments of a false gable window, the headless image of a Buddha in teaching attitude, and the torso of a lay

[1] Cf. *A.S.R.* (1912–13), Pl. XII, *b*.

worshipper ('Stone Sculptures', ch. 36, nos. 86, 128 and 181). There is no reason to suppose that they were connected with the stūpa.

Stūpas K 2, K 3, P 3 and P 6

The four other stūpas belonging to this group, which stand on the sides of the bathing tank close to K 1, are smaller in size than the latter and probably built after it. In the case of K 2 and K 3, nothing more than their semi-ashlar platforms and the base of their plinths have survived (cf. Pl. 53, *a*). P 3 and P 6 are preserved up to the top of their plinths, which being quite small were faced with kañjūr stone, with a piece or two of Gandhāra schist—evidently the remnants of some reliefs let in near the base of P 6 (Pl. 57, *c*). The plinth of P 3 was plain save for base and cornice mouldings; that of P 6 was relieved by four stunted pilasters on each side. Small and badly preserved as they are, these small stūpas are important because they are the only ones belonging to this group which have yielded any tangible evidence of its date. In the stūpa K 3 was found a small earthenware vase containing some ashes and three copper coins of Kanishka of the 'King at altar and Wind-god' type. In stūpa P 6 was another earthenware vase and ten copper coins, three of Huvishka of the 'King on elephant and Śiva' type, and seven of Vāsudeva of the 'King at altar and Śiva and bull' type. The three coins of Huvishka and three of Vāsudeva were found above the relic vase, three of Vāsudeva inside it, and one below it. Now, in the case of the small stūpa U 1, a little to the north of these stūpas, we shall see presently that the contents of the relic chamber, which date from the Śaka period, had been transferred from one of the early stūpas destroyed in the great earthquake, and they afford no criterion, therefore, as to the date of the stūpa U 1. In the case of K 3 and P 6 there is no reason to suppose that any such reburial had taken place; nor indeed is there evidence on this or other sites that any relics dedicated after the great earthquake were subsequently transferred to another stūpa. We are justified, therefore, in presuming that the stūpa K 3 dates in all probability from the reign of Kanishka and that the stūpa P 6 dates from the reign of Vāsudeva. The evidence as to the date of these memorials cannot, of course, be regarded as decisive. The coins of Kanishka might conceivably have been deposited in a monument erected in the reign of one of his successors, when they were no doubt still passing current; and, similarly, those of Huvishka and Vāsudeva might not have been deposited in P 6 until after the death of the latter monarch. But it is a fair inference, and one which accords with the evidence from other monuments, that the stūpas K 1, N 4, K 2 and K 3 are referable to the reign of Kanishka, and P 3 and P 6 which, apart from the coins, one would judge to be of later date, to that of Vāsudeva. And if this inference is correct, then it certainly militates against the view that Kanishka was the founder of the Śaka era of A.D. 78; for the diaper chapels G 5 and G 6 are dated by the silver scroll inscription to that same year, and it is obvious that a considerable interval of time must have elapsed between the building of that chapel and the building of the semi-ashlar stūpas K 1, N 4, K 2 and K 3. As I have said, the evidence of these stūpas cannot by any means be regarded as conclusive, but, such as it is, it does point to Kanishka's reign having fallen in the second rather than the first century A.D.

Terrace facing of Great Stūpa

As to the other two items belonging to this group, viz. the terrace facing of the Great Stūpa and the original structure of stūpa J 1, the former has already been noticed on p. 237, and all that I need say here is that at the time the terrace was refaced (owing to the burning out of the structures alongside the *pradakshiṇā*) many of the diaper chapels opposite to it were also reconstructed in the new semi-ashlar masonry, but none of these reconstructions adds anything material to our study of the architecture of this period.

Stūpa J 1

Stūpa J 1, which stands next to D 4, near the southern entrance of the Great Stūpa, is the largest of all the subsidiary stūpas in this area. Like stūpas K 1 and N 4, it stands on a heavy limestone platform and consists of a square plinth divided into three diminishing terraces, on the topmost of which once rested the usual drum and dome. The lowest terrace was 32 ft. 4 in. square at the base and 3 ft. 1 in. high; the second 27 ft. 10 in. square. The core was composed of rough blocks of limestone mixed with earth and smaller stones, the facing of semi-ashlar limestone masonry with kañjūr let in for the ornamental features, the whole being plastered over and adorned with bands of stucco figures in relief. The stūpa was renovated more than once. Originally the face of the lowest terrace was divided by Corinthian pilasters into eleven bays on each side, the central one of which contained an image of the Buddha, ensconced, as in the case of K 1 and N 4, in a trefoil niche. Of these four trefoil niches only one has survived—in the middle of the west side. From its general design and the character of its masonry this original structure appears to have been approximately contemporary with K 1 and N 4.[1] Later on, during the reign of Vāsudeva or thereabouts, each of the bays on this terrace was decorated with seated figures of the Buddha attended by a devotee standing on either side, some of whom are clad in the characteristic Kushān dress (Pl. 58). Still later, probably in the late fourth or even fifth century, when these figures were no doubt much damaged, the architrave immediately above them was lowered from its position over the pilaster capitals and brought down on to the shoulders of the Buddhas, from which the heads had by then disappeared. At the same time a new series of more stunted pilasters was introduced on the eastern and southern façades, with notched brackets inserted between the capitals and the architrave. On these two sides of the lowest terrace there are now no figures of the Buddha.

To the same period as these latest repairs also belong the pairs of Atlantes alternating with the foreparts of elephants which ran in a long narrow band round the four faces of the second terrace (Pl. 58, *a*). The grotesque attitudes and nerveless modelling of these Atlantes, some of which have their backs turned to the spectator, betray an even more decadent phase of art than the corresponding figures on the latest stūpas at Jauliāñ, e.g. D 4 and A 11 (pp. 372–3 *infra*).

[1] As evidence of the relatively late date of the original structure, it may be noted that it overlapped the ruined stairway belonging to the outer envelope of the neighbouring stūpa D 4, which was added to that stūpa during the early diaper period and was destroyed perhaps during the conflagration which overwhelmed the early diaper structures immediately round the Great Stūpa.

Fourth group of third to fifth century A.D. chapels

We come now to the fourth group of these monuments, which comprises all the later chapels and stūpas ranging in date from the third to the fifth century A.D.

Most of the chapels were small rectangular[1] chambers intended for the housing of images, which at this time were becoming more and more popular with the Buddhists. Only a very few of them were designed, like N 16, as stūpa-chapels. Generally, they were raised on plinths two or three feet in height and approached by a short flight of steps. In the older examples there was an entrance of no great width in the front wall, which may or may not have been closed by doors; in later examples the front wall was dispensed with and the chapel left entirely open. In the earlier examples, again, the images were relatively small, and the chapels probably not more than 10 or 15 ft. in height; in the later examples the images tended to become more and more colossal, and some of the chapels must have been not less than 30 or 40 ft. in height. The roofs were of timber and have entirely perished. What form they took we do not know for certain, but it may reasonably be conjectured that they were either double-domed, like the majority of those at Takht-i-Bāhī[2] and other sites in Gandhāra, or angular, like the roof over a small chapel in the Guniyār Pass[3] and like many in Kashmīr.[4] In two or three of the later chapels (e.g. N 16 and N 17) the face of the raised plinth was decorated with pilasters and other ornamental features blocked out in kañjūr and finished in plaster, but most of the chapels were built of plain semi-ashlar limestone masonry, which did not admit of carving, and any decoration that they may once have possessed must have been restricted to the timberwork of the roof and entrances, all of which has perished, or to the plaster of the walls, only a few fragments of which have survived.

Their semi-ashlar masonry

As for the semi-ashlar masonry used in their construction, all that can be said with assurance regarding its development is that there was a general tendency during this period to increase the massiveness of the walls and the size of the individual boulders—a tendency due partly, no doubt, to the increasing height of the chapels which demanded a corresponding increase in stability; and that there was also a tendency to double or treble the courses of ashlar work between the larger diaper courses and to square up the boulders themselves to a greater extent than had previously been done (Pl. 55, nos. 11, 12). It should be noted, however, that there was always a certain amount of inferior work being produced, and that the growing deterioration which took place as time went on led in the early Middle Ages to this kind of masonry reverting to something not much better than random rubble.

Contents of chapels

As all the earlier chapels of diaper masonry which encircled the *pradakshiṇā* path of the Great Stūpa were destroyed by fire, it is unlikely that any of the objects inside them were saved and reinstalled after they had been rebuilt. When

[1] By reason of the position they occupy a few of those encircling the Great Stūpa, e.g. R 6 and S 4, have an irregular plan, being slightly narrower in front than at the back.

[2] Cf. Foucher, *L'Art gréco-bouddhique*, vol. 1, figs. 45, 46.

[3] *Ibid.* fig. 49.

[4] *Ibid.* figs. 55, 56.

the fire occurred we do not know for certain, but it could hardly have been much before the terrace of the Great Stūpa was refaced, and there are good reasons, as we have seen, for inferring that that was done during the reign of Kanishka or very shortly afterwards. Accordingly we must conclude that the images and other objects found in the chapels themselves, or thrown out from them into the *pradakshiṇā* at the time of their final destruction, date from the period between the reign of Kanishka or slightly later and the invasion of the White Huns or Ephthalites who overran Taxila in the latter half of the fifth century and were responsible for the wanton devastation of all these Buddhist monuments. As a fact, the great majority of the images in question are products of the Indo-Afghān School which was at its zenith in the fifth century A.D. Of the few which are referable to an earlier period the most noteworthy are the pieces of Gandhāra sculpture described at pp. 239, 249 *supra*, some of which, though actually found in the *pradakshiṇā* on the east side of the Great Stūpa, no doubt came from one of the neighbouring chapels.

Images of Indo-Afghān and Gandhāra Schools

Of later images, one of the most notable is the singularly fine terra-cotta head of a beardless youth found in chapel B12 ('Terra-cottas', ch. 24, no. 167 and Pl. 137, *a*). From the same chapel came also the exceptionally well-preserved head of a Bodhisattva in stucco, to which allusion has already been made ('Stucco Sculptures', ch. 26, no. 77 and Pl. 159, *i*).

From chapel B13, further to the east, there came, besides numerous other broken specimens, the two Buddha heads illustrated in *A.S.R.* (1912–13), Pls. v, *b* and vi, *c* and described on p. 13, nos. 1 and 2, of the same report.

Multiplicity of heads

The discovery of so many heads in one small chapel raises the question whether such heads were originally provided with bodies or affixed, tier upon tier, to the walls of the chapel without any bodies beneath them. It is quite possible that the latter practice was followed in a few cases such as this one, but after many years of digging on this and other neighbouring sites, I think it more probable that one and all of these heads were at one time attached to bodies made of clay, and that after the devastation wrought by the White Huns a number of the heads were brought together and kept in one or two of the best-preserved chapels. This view is confirmed by the discovery of numerous hands and feet belonging to images. The rest of the figures, being made mainly of mud, would quickly dissolve when once the destruction of the chapel roofs had exposed them to the rain.

Sealings from chapel S3

From chapel S3 came a find of a different kind. The chapel itself, which is built partly over the remains of the early stūpa S8, is somewhat broader than the other chapels, measuring internally 22 ft. 6 in. from north to south by half as much from east to west; and it was distinguished from the other chapels also by its entrance, which was supported on two pilasters and a central pillar between them, the bases of which are still *in situ* (Pl. 60, *a*). In the south-west corner of this chapel were the remains of a raised platform of mud, which had no doubt once supported an image, and in the body of this platform I discovered a large number of clay sealings with the Buddhist creed—*ye dharma hetu prabhavā*, etc.—stamped upon them in Brāhmī characters of the early Gupta period. The practice of imbedding such seals

in the cores of stūpas and even of statues has been observed at many Buddhist monuments and calls for no special comment.

Relic caskets from chapel S 10

In chapel S 10, buried near the base of its west wall underneath a block of kañjūr stone, were found two relic caskets. One of these, 3·43 in. high, is of grey schist turned on the lathe, and is decorated with incised lines and cordon round the body and with a lotus design on the flat top of the lid. In it were seven lumps of clay, which may contain ash or bone relics. The other, 3·68 in. high, is of mica schist, with a lotus design round the shoulder and a loose knob-handle at top, which was turned separately and no doubt fixed with cement (Pl. 50, *m*). In the second casket there was nothing.

Chapels on north side of K 1

Besides the above chapels round the *pradakshiṇā* path, there are a number of others belonging to this period in other parts of the enclave. Thus, against the north side of the stūpa K 1 there was a range of four small chapels which were erected perhaps a century or more after its completion. They are constructed of a later type of semi-ashlar masonry, and stand on a common plinth adorned with a row of stunted pilasters alternating with niches of the same pattern as those above the upper *pradakshiṇā* path of the Great Stūpa (Pl. 46, *c*), viz. trefoil arches and doorways with sloping jambs, in which images of the Buddha were placed.

Chapels P 2, P 2, *a*, P 4, P 5, and P 7

Then, round about the stūpa P 1 was a group of five more of these chapels, viz. P 4 and P 5 on either side of its approach steps, P 2 close up against the two colossal Buddhas at its back, which have already been described, and abutting on to the east wall of the latter two more small chapels, P 2, *a* and P 7.

From P 4 came the two stucco heads, ch. 26, nos. 81 and 85 (Pl. 160, *d*, *h*),[1] and another small stucco head of the Buddha, 7·5 in. high, which is illustrated in *A.S.R.* (1912), Pl. VI, *f*. In the debris on the south side of this chapel was found the Gandhāra relief, ch. 36, no. 74, and on the north side, the relief no. 169. From P 2 came the Gandhāra piece, ch. 36, no. 189, and from the debris on its south side another piece of the same School, no. 173. P 7 stands on a raised plinth, the north face of which is relieved with the usual trefoil niches alternating with debased Corinthian pilasters. From this chapel came the Gandhāra fragment, *ibid.* no. 95. Finally, in the narrow space between this chapel and the stūpa P 10 was found the relief, *ibid.* no. 125, representing the monkey offering honey to the Buddha (Pl. 221); and a little lower down was a small earthenware pot containing five debased gold coins, a solid gold ear-ring with pendent pearls, a few gold beads, plain and fluted, and a broken ornament of beaten gold with granulated border. The gold coins are of the 'King at altar and throned Ardochsho' type, struck by the Kidāra Kushāns (R.U.C. ch. 39, no. 274). The gold ear-ring is described under 'Jewellery', ch. 30, no. 47 (Pl. 191, *f*) and the beads under no. 73. The few remaining articles are illustrated in *A.S.R.* (1914–15), Pl. XII.

Chapels N 6, N 15, N 16, N 17, N 18, N 27 and N 28

More imposing than the foregoing is a group of chapels at the north-east corner of the stūpa area, where a wide passage, flanked by stūpas and chapels, leads north to the residential part of the site. Two chapels, N 27 and N 28, stand on the west side of it, and five more, N 6, N 15, N 16, N 17 and N 18, on the east side. The two numbered N 17 and N 18 are still quite impressive, even in their ruin. N 18 stands on a plinth raised 3 ft. 6 in. above ground-level, with a broad flight of four steps

[1] Cf. *A.S.R.* (1912), Pl. VI, *e* and (1914), Pl. XII, no. 14.

in front (Pl. 59, c). Its walls, which are unusually massive and obviously intended to carry a great weight, are nearly 5 ft. in thickness, and its interior measurements 17 ft. 9 in. × 14 ft. 9 in. When excavated from the debris it was still standing to a height of approximately 12 ft., but, to judge by what is left of the principal image, it must once have had an elevation of at least 40 ft. The image in question stood opposite the entrance on a low plinth, 10 ft. 1 in. × 5 ft. 11 in. Unfortunately only the feet and bottom of the raiment have survived, but the length of the feet (5 ft. 3 in. from heel to toe) indicates that the figure had an approximate height of 35 ft. To the left of this colossal statue and on a smaller plinth against the northern wall of the shrine is a seated, but headless, image of the Buddha, 5 ft. 8 in. high, including the pedestal (Pl. 59, a); the halo is circular and large enough to surround the whole figure. Against the south wall of this shrine, again, there is a third standing image, of which the whole upper part above the thighs is destroyed (Pl. 59, b);[1] and placed against the east wall between this and the main image is a fourth standing figure of smaller dimensions. Its head and right hand are missing but otherwise it is in a tolerably good state of preservation, and the plastic treatment of the feet and left hand is uncommonly good. In all these statues, as well as in others of the same period, the core is composed either of soft kañjūr stone roughly fashioned to the shape of the figure, or of small kañjūr stones and mud combined, or of mud alone. The thick layer of stucco which covers this core and in which the features and all other details are made out, is of pure lime plaster. In several instances, red paint was found still adhering to the robes, and no doubt other pigments, notably a dark blue-black for the hair and eyebrows, were employed for these large statues in the same way as they were employed at this period for smaller ones.[2]

Chapel N 17

The adjacent chapel on the south, N 17, which was built subsequently to N 18, is of smaller dimensions, measuring internally 9 ft. 2 in. wide by 9 ft. 8 in. deep, with a plinth 2 ft. 10 in. high. The northern wall of this chapel is less substantially built than the southern, being 1 ft. less in thickness. The reason, quite obviously, is that the northern wall, being built against the already existing structure N 18, received lateral support from it and did not need to be so strong, whereas the southern wall had no such lateral support until the chapel N 16 was subsequently erected against it. In the interior of the chapel are some remains of three standing images, but nothing more than the lower parts of the drapery and feet. The latter are noteworthy for the excellence of their modelling; and the head from one of them ('Stucco Sculptures', ch. 26, no. 72 and Pl. 159, f),[3] which was lying on the floor of the shrine, is also a praiseworthy piece of work. From this chapel

[1] Belonging to this image were two fragments found in the debris, viz. the tip of a ring finger, and the middle section of a little finger holding the end of a garment. Cf. *A.S.R.* (1915–16), p. 8, no. 12.

[2] Cf. 'Stucco Sculptures', ch. 26, nos. 55, 59, etc.

[3] Cf. *A.S.R.* (1915–16), Pl. III, g, and for the sensitive modelling of the feet, the stucco Bodhisattva at Hadda illustrated in fig. 1 of *L'Œuvre de la Délégation archéologique française en Afghānistān (1922–32)*, by J. Hackin.

also came the Gandhāra relief described under 'Stone Sculptures', ch. 36, no. 178, a copper ring,[1] and an ornamental piece of copper in the shape of an arrow-head.[2]

The two adjacent walls of the above chapel, i.e. the south wall of N 18 and the north wall of N 17, have a combined thickness of 7 ft. 5 in. Against the western end of these walls and between the short flights of steps which ascend to the two chapels, there was erected at a later date a small shrine, of which only the plinth has escaped destruction. The front of this plinth is adorned with four short Corinthian pilasters resting on the usual torus moulding and surmounted by an architrave and dentil cornice. In the centre bay between the pilasters is a trefoil niche containing a seated figure of the Buddha. There was a similar shrine between the chapels N 16 and N 17, which is illustrated in Pl. 60, *b*.

Adjoining N 17 on its south side, is another chapel of the same dimensions, N 16, containing the square plinth of a stūpa, 5 ft. 1 in. square and standing to a height of 1 ft. 9 in. (Pl. 60, *c*). The plinth is faced with kañjūr, which was stuccoed over and, later on, coarsely replastered. Its decoration consists of a row of lions' heads surmounted by a frieze of the ever-recurring Corinthian pilasters alternating with trefoil niches. Amid the debris of this stūpa-chapel were found two fragmentary pieces of Gandhāra sculpture, viz. a much damaged bust in relief, 5 in. high, and a winged figure in the round probably from a bracket, similar to 'Stone Sculptures', ch. 36, nos. 8, 11, 18, etc.[3] Chapel N 16

The two chapels on the opposite (west) side of the passage stand on a common plinth with a single partition wall between them, showing that they were erected at the same time. In the one to the north (N 28) are two pedestals for statues, but the statues themselves have disappeared; in the one to the south (N 27) are the remains of what appears to have been a long pedestal on the north side. Chapels N 28 and N 27

The stūpas erected during this period at the Dharmarājikā were situated almost exclusively[4] on the north and east sides of the Great Stūpa, and there was a marked tendency to bring some sort of order out of chaos by arranging both them and the chapels, where possible, in rows instead of scattering them about haphazard over the site. All the stūpas are small structures and, with four exceptions (U 1, U 2, U 3 and J 6), have square bases. Most of them are faced with semi-ashlar masonry on a rubble core, with soft kañjūr inserted for the bolder ornamental features; the smaller details were worked out in the thick lime stucco with which the whole of the stonework was faced. In the case of very small stūpas, however, the limestone masonry was omitted, and the structure faced with squared kañjūr only. The form and decoration of these stūpas, or rather, I should say, of their plinths, since nowhere has an example of the superstructure survived, can best be understood Stūpas of third to fifth century A.D. Their form and decoration

[1] Diam. 0·85 in. *A.S.R.* (1915), p. 11, no. 15.

[2] 1·5 in. long. *Ibid.* no. 16.

[3] Dh. '15–672. Cf. *ibid.* p. 7, nos, 20, 21, where these objects are erroneously said to have been found in N 17 instead of N 16.

[4] O 2 alone is situated to the south-west.

from the much better preserved examples at Jauliāñ (Pls. 102–9). The most characteristic type of plinth is pyramidal in shape, like those of the previous period, with two or three horizontal tiers diminishing in size towards the top. The face of each tier is commonly decorated with a band of 'door' and 'trefoil' niches in alternating bays divided from one another by dwarf Corinthian pilasters. In the niches are seated figures of the Buddha, and on either side of the niches attendant *devas* or devotees. Below this band the base of the tier is frequently supported on a row of lions' heads or forefronts alternating with sprawling Atlantes; above it, is a narrow architrave and dentil cornice. The principal architectural features were usually blocked out in kañjūr before being finished in plaster; the figures and minor ornaments were made wholly of plaster.

In another, not uncommon, type the pyramidal plinth was raised on a high basement and the vertical faces of this basement were either left plain or, more usually, relieved with a series of Buddha images, sometimes separated by Corinthian pilasters. In a third type the receding tiers are altogether omitted, and the drum of the stūpa rests directly on the vertical basement. In a fourth and very rare type —evidently copied, as we shall presently see, from some of the old Śaka stūpas— the base was circular instead of square. How it was decorated we do not know.

Unfortunately, all the stūpas belonging to this group at the Dharmarājikā have lost their plaster decorations and in other respects are for the most part in a sad state of mutilation. One of the best preserved is N 12, which being a small stūpa was faced entirely with kañjūr stone. As in the case of the still smaller stūpa in chapel N 16, already alluded to, the base moulding of the lowest tier of the plinth is supported on a row of lion heads—eight on each side—and the face of the tier is divided by stunted pilasters into five bays. On the analogy of the much better-preserved stūpas at Jauliāñ and elsewhere, we may safely presume that the bays were occupied by small images of the Buddha in niches with attendant devotees to either side, and that the intervals between the lion heads were filled with grotesque Atlantes—all modelled in stucco. N 5, which also dates from this period, is a much larger structure, measuring 20 ft. 1 in. square. It stands on a platform of limestone blocks 5 in. high with a projection of 6 in. beyond the face of its plinth. The facing of the structure is of squared kañjūr; the core of rubble. Round the base of the lowest tier runs an unusually well-cut torus moulding with a bevelled course above, and above this a row of dwarf Corinthian pilasters, five along each side, surmounted by brackets and architrave. The base of the next tier, a little only of which was preserved on the south side, was supported on a row of lions' forefronts and doubtless adorned above with the usual image niches.

Stūpa N 12

Stūpa N 5

Stūpas N 9–14

Adjacent to N 12, on its eastern side, is a row of six stūpas (N 9–N 14). All were raised on high basements with vertical faces (type 2, *supra*) and constructed of semi-ashlar limestone masonry. In N 11 was found a *ghaṛā*[1] of plain red earthenware, 1·2 in. high, containing fifteen Sasanian coins of Shāpur II (A.D. 309–80; cf. 'R.U.C.', ch. 39, nos. 279–82). In the neighbouring stūpa, N 10, a similar

[1] For illustration, cf. *A.S.R.* (1914), Pl. XII, no. 13.

earthenware *ghaṛā* was found, but it had been badly crushed and yielded only eighteen beads of coral, lapis-lazuli, shell and glass. The next stūpa, N9, also yielded only a few beads.

Another of these small stūpas in which a casket was found was P10. In this case the casket was of grey schist stone (Pl. 50, *p*) and was concealed in a hollow block of kañjūr near the north-west corner of the stūpa. Unhappily, it contained nothing but some earth and a coral bead. Next to this stūpa, P10, on its eastern side, is another, slightly later, stūpa, P8,[1] and beyond it P11 and P12. P8, which, like P10, is faced with squared kañjūr masonry, is noteworthy for the fact that its north-west corner was rounded off in order to provide for a passage-way between it and P7. This, however, was evidently done long after the stūpa was built, and probably not before it was already falling to ruin and its sacred character perhaps more than half forgotten. Among the myriads of these Buddhist memorials that I have seen, I do not recall to mind another example of this kind of mutilation. From alongside this building came two Gandhāra reliefs ('Stone Sculptures', ch. 36, nos. 153 and 183) and the head of an ascetic in stucco ('Stucco Objects', ch. 26, no. 84). P12 was also faced with square kañjūr and provided with the usual torus and scotia moulding round its base. In the centre of the structure was a square relic chamber, long since rifled of its contents, the walls of which were finished internally with a coating of lime plaster. Abutting against the north and east sides of its plinth are three later additions in the shape of rectangular plinths which once, no doubt, supported image-shrines. The earliest was the one on the north, then came the one on the east, and last the one at the north-east corner. All three are constructed of semi-ashlar limestone masonry and the two on the north and east are provided with kañjūr cornices; the other has been destroyed to a point below the line of the cornice.

Stūpas P10, P8, P11 and P12

The other small square-based stūpas of this period—J4, N2, N19, N20, N24 and N26—call for no particular notice.

As already stated, the only circular-based stūpas here belonging to this period are the three small memorials, U1, U2 and U3, near the northern edge of the stūpa area, and J6 to the south-east of the Great Stūpa. They are all very insignificant monuments and but for their shape and the collection of objects found in U1, would hardly deserve mention. This stūpa, U1 (Pl. 60, *d*), and its neighbours, U2 and U3, are of approximately the same size, viz. between 10 ft. 9 in. and 11 ft. 0 in. in diameter. They are constructed of semi-ashlar masonry, with a torus and scotia base moulding of kañjūr, the torus moulding being bevelled to three faces, but no doubt finished off round in the covering plaster. U2 and U3 yielded no relics, but in U1, in the middle of the plinth and at a height of 4 ft. 3 in. above ground-level, I found an earthenware pot much like a modern flower-pot, with a casket of grey schist stone inside, and a ribbed bowl placed upside down over the latter for protection (Pls. 49, *e* and 50, *r*).[2] The diameter of the earthen-

Stūpas U1, U2, U3 and J6

Contents of U1

[1] P7 was erected after P10, and P8 after P7, but they belong to the same period.

[2] Cf. *A.S.R.* (1915–16), Pl. IV, nos. 3–5.

ware pot is 7·62 in., that of the relic casket 4·5 in., and that of the bowl, 5·56 in. Inside the relic casket were the following articles:

Bone relic, 1·18 in. long. Four coins, viz. one of Apollodotus II ('Apollo and tripod', *P.M. Cat.* v, 344); one of Maues ('Elephant's head and caduceus', *ibid.* x, 5); one of Vonones with Śpalahores ('Heracles and Pallas', *ibid.* xiv, 379), and one defaced and uncertain. Thirty-two thin disks of beaten gold, whole or fragmentary, varying from 0·43 to 0·75 in. in diam. Oval gold leaf, 0·56 in. long. Minute cylindrical ring of gold and ditto of silver, 0·37 in. diam. Some fragments of silver-leaf, apparently from disks. Miscellaneous pieces of yellow quartz, aquamarine and rock crystal. Fragment of a highly polished vase of banded agate, finely bored near rim; size 1·5 × 1·37 in. (Pl. 53, *b*, 17). Also the following beads:

Carnelian: one spherical eye bead, diam. 0·4 in. (Beck, Pl. I, no. 12);[1] one flattened leech, 1·37 in. long (Pl. 53, *b*, no. 13); one barrel, 0·4 in. long (Beck, Pl. IV, no. 3); one lenticular spherical, 0·48 in. long (*ibid.* no. 38); one tetrahedron, diam. 0·55 in.; one oval scaraboid, 0·94 in. long (Pl. 53, *b*, 16); four spherical (one unbored), diam. 0·2–0·3 in.

Yellow quartz: one barrel, 0·45 in. long; one flattened barrel, 0·3 in. long; two hexagonal flattened barrel, 0·5 and 0·45 in. long (*ibid.* nos. 18, 19); one cylinder and one hexagonal cylinder, 0·2 and 0·48 in. long (*ibid.* no. 7); two double pentagonal, 0·33 and 0·2 in. long (*ibid.* no. 24); one plano-convex truncated bicone, 0·6 in. diam. (*ibid.* no. 2).

Colourless quartz: two spherical (one unpierced), 0·2 and 0·25 in. long (*ibid.* nos. 8, 12); two flattened barrel, 0·45 and 0·6 in. long (*ibid.* no. 6); one double pentagonal 0·41 in. long (*ibid.* no. 21); one hexagonal cylinder, 0·42 in. long (*ibid.* no. 4); one convex cone disk, 0·5 in. diam. (Beck, Pl. V, no. 13).

Beryl: one hexagonal flattened barrel, 0·31 in. long (Pl. 53, *b*, no. 26).

Garnet: three spherical, 0·1–0·15 in. long; three barrel, 0·15–0·25 in. long; one bicone, 0·3 in. long; four flattened bicone, 0·2–0·28 in. long; one pentagonal barrel, 0·2 in. long.

Lapis-lazuli: one spherical, 0·22 in. diam.

Yellow jasper: two barrel (one unpierced), 0·7 and 0·93 in. long (*ibid.* nos. 27, 29).

Green jasper: two spherical, 0·4 in. diam. (*ibid.* nos. 9, 23); two barrel, 0·65 and 0·7 in. (*ibid.* nos. 1, 25); two 24-faced, 0·3 and 0·42 in. diam. (*ibid.* nos. 10, 20).

Banded agate: one spherical, 0·4 in. diam.; five barrel, from 0·3–0·52 in. long (*ibid.* nos. 3, 28); one oval barrel, 0·58 in. long.

Pyrites: one cubical, 0·2 in. long.

Unidentified stones: seventeen spherical, 0·2–0·35 in. diam.; one hexagonal cylinder, 0·62 in. long (*ibid.* no. 5).

Pearl: six small spherical, 0·05–0·12 in. diam. (*ibid.* no. 15); two tortoise-shaped mother-of-pearl pendants, 0·72 in. long (*ibid.* nos. 11, 22).

Coral: twenty cylindrical, one gadrooned and twelve unshaped.

Faience: one monkey-shaped amulet, 0·4 in. long (*ibid.* no. 14).

Glass: one collared barrel, 0·3 in. long; one cornerless cube, 0·32 in. square (Beck, Pl. IX, 37); one tetrahedron, 0·2 in. high.

The fragment of a polished agate vase and the flattened leech carnelian bead almost certainly date from the Maurya period, and some of the other beads and the ribbed bowl[2] may also be referable to the same early time. It is not unlikely, therefore, that the relic itself may have come originally from a Maurya stūpa and been re-dedicated in another stūpa about the middle of the first century B.C. That,

[1] The reference is to H. Beck's Memoir, *Beads from Taxila*, with ten plates.

[2] For horizontal ribbing of this kind in the prehistoric age, cf. *M.I.C.* Pl. 83, Type Y.

however, is largely surmise. All that we know for certain is that the coins of Apollodotus II, Maues and Vonones found with the relics indicate the Śaka period as the date of this deposit, while the stūpa U 1, in which the relics were actually found, dates from some four centuries or more later. What probably happened was that, in the course of their reconstructions round about the Great Stūpa, the builders of the fourth or fifth century lighted upon the relics of one of the ruined Śaka stūpas and, since they could not restore the old stūpa itself (which was in all likelihood half-buried under the later chapels), they proceeded to erect a new one in the open ground to the north, and even went to the trouble of giving it the same circular form as the original. Then other devotees came, and, intrigued perhaps by the novel appearance of the new stūpa or by the special sanctity it had acquired from its age-old relics, erected two other monuments of the same design (U 2 and U 3) in its immediate proximity, and a third (J 6) to the south-east of the Great Stūpa.

Chapter 11. THE DHARMARĀJIKĀ
(continued)

MONASTERIES

No remains at Taxila of oldest type of residential quarters for monks

IN THE early days of Buddhism the *saṅghārāma* or monastery was merely a garden retreat with a number of buildings designed for the accommodation and convenience of the itinerant *bhikshus* who congregated there during the rainy season. The buildings, which, as already noted, comprised sleeping- and living-quarters, a refectory, kitchen, bathroom, open pavilion, etc., were detached one from another, and do not seem to have been laid out according to any particular plan or method. The rules relating to their design and construction which are contained in the *Vinaya* texts allowed them to be raised on a high plinth (*caya*) above floor-level, and it was permissible for the plinth to be faced with stone, brick or wood; but, apart from this, the buildings had to be constructed throughout of perishable materials, viz. mud or wattle-and-daub for the walls, thatch or skins reinforced with plaster for the roofs, the only exception to this general rule being that a dado of brick was allowed for the interior of the kitchen and bathroom. This being so, it is easy to understand why nothing now remains of these early monastic buildings except a few solid plinths of stone, such as may still be seen in the famous *saṅghārāma* at Sāñchī in Mālwā and other sites in the same neighbourhood. At the Dharmarājikā at Taxila not even the plinths (if they ever existed) have survived, and there is not a vestige of any residential quarters which can be assigned to a date much earlier than the beginning of the Christian era. That such quarters were, however, provided from the Maurya period onward may be taken for granted, and it seems likely that evidence of their existence is furnished by some local copper coins of the Maurya and autonomous periods which, if my interpretation of them is correct, depict the Dharmarājikā Stūpa with a row of monastic cells on either side (ch. 38, pp. 757–8). But however this may be, the earliest actual remains of such quarters that I have found on this site are those comprised in the three ranges of buildings, viz. E1 E2, F1–F3 and T2–T7 on the west, V1–V5 on the north of the Great Stūpa and W1–W5 on the west of stūpa 4. All these structures seem to have been built of rubble in the later Śaka period and repaired in diaper some time after the great earthquake. There may also have been another row of apartments on the east side of the stūpa area, which have since been obliterated, but this is problematical. On the south side there seems to have been only a protecting wall.

Earliest existing remains of such quarters

Transitional character of buildings in first century A.D.

Thus, in the early part of the first century A.D., the Dharmarājikā exhibits a transitional stage in the rapidly changing character of the *saṅghārāma*. The flimsy, perishable buildings of the old garden-enclave have now been replaced by stone

ones, but these have not yet taken shape as a quadrangular, self-contained monastery; they are merely disposed in rows, in somewhat haphazard fashion, along the edges of the enclaves, while in the centre the only object of cult worship is the Great Stūpa and its ring of smaller satellites; for the day of the image-chapel has not yet arrived. That, in addition to the rows of cells or other small apartments facing on to the Great Stūpa, there were other and larger structures—assembly-halls, *maṇḍapas*, refectories, etc.—in the area to the north of the stūpa-court, is virtually certain, though all traces of them have disappeared beneath the accumulated ruins of the later edifices which cover this part of the site.

Later *vihāras* of quadrangular type

These later edifices are for the most part monasteries or *vihāras* of the quadrangular, walled-in type. The earliest among them is built of semi-ashlar masonry, which, as we have seen, was first introduced at Taxila in the second century A.D. The plan of these monasteries is shown on Pl. 61, which is taken from Khan Sahib A. S. Siddiqi's accounts of their excavation.[1] And here let me say that in describing these monastic remains I labour under the disadvantage of not having personally seen either the great court of cells G on the extreme north of the site or stūpa 4 and the buildings surrounding it, which were excavated after I had left Taxila in 1934. In what follows, therefore, concerning these particular remains I have to rely on Mr Siddiqi's published reports, supplemented by some other notes on his work with which he has been kind enough to favour me.

Extent and stratification of monastic remains

The mound which covered the ruins of these monasteries had an area of some 450 ft. from north to south by 370 ft. from east to west, and, owing to the unusual massiveness of the buried structures, had risen to a height of some 16 ft. above the level of the stūpa area. According to Mr Siddiqi's plan there are only three strata of buildings in this area. This, no doubt, is correct so far as the actual levels are concerned, but it is important to note that the lowest stratum comprises remains of two distinct building periods, and that there are thus not less than four periods in all,[2] represented by the following structures:

1. Stūpas 1 and 4 and rows of chambers on the west and south of the stūpa-courts. These date from the late Śaka period. The stūpas have a rubble core faced with chiselled kañjūr; the chambers were originally built of rubble, and repaired later in diaper.

2. Large court of cells G, with halls of assembly, etc. on its south side (G*a*–G*d*), and lowest stratum of eastern court J. These are built of the earliest type of semi-ashlar masonry and date from the second century A.D. (probably latter half).

3. Smaller court of cells H, and second stratum of eastern court J. They are built of later semi-ashlar and date from the fourth or fifth century A.D. Contemporary with them are stūpas 2 and 3.

[1] Contained in *A.S.R.* (1934–5), pp. 28–31, and Pls. V–VIII; (1935–6), pp. 33–5, and Pls. IX–XI, *a*, *b*.

[2] Mr Siddiqi's plan is also misleading in some other particulars, e.g. stūpa 2 is shown as belonging to a different stratum from the small image-chapel at the south-east corner of stūpa 1, whereas it is on the same level and of the same age.

4. Latest stratum of courts H and J and numerous other walls in other parts of the site, built of decadent semi-ashlar or nondescript masonry and dating from the sixth or seventh century A.D.

These various structures we shall now consider in detail, though not in every case in their chronological sequence.

Stūpa I Stūpa 1, which is the largest of all the subsidiary stūpas, had an over-all measurement of nearly 60 ft. from north to south, including the stepped approach on the south side, by 34 ft. from east to west. Its core is composed of rough limestone boulders laid in mud; its facing of chisel-dressed blocks of kañjūr, roughly squared but of irregular shapes and sizes. The plinth was square (34 ft. each way) and ascended by a flight of fifteen steps on its southern side, with the usual projections in the two inner angles. Originally its façade was relieved with a simple row of tall Corinthian pilasters. Around its base ran a torus and scotia moulding surmounted by a fillet, as in the stūpa of Block F in Sirkap (Pl. 28); above this the façade was divided into bays by tall Corinthian pilasters, of which there are eight on the east, north and west sides and sixteen on the south. The moulded cornice which rested on the pilasters has entirely perished, but we may safely presume that it was of the same general character as the cornices of the stūpas in Blocks F and G in Sirkap, to which in all other respects of plan, construction and decorative details this stūpa bears a very close resemblance. Of its drum and dome nothing has survived, but lying a little to the south-east of the stepped approach were some pieces, one measuring 5 ft. across, of the stone umbrella with which the dome was crowned.

That this monument dates from about the beginning of the Christian era is clear not only from its design and construction, which are peculiarly characteristic of that period, but also, as we shall see, from the evidence afforded by the contents of the relic chamber in the neighbouring and contemporary stūpa 4. Some four centuries or thereabouts after its erection a small image-chapel of semi-ashlar masonry was built against the south-east corner of its plinth, and about the same time some seated images of stucco, of which only the lower parts have survived, were set up against its north face, near the north-west corner. These seated images are in much the same style as those at the back of stūpa P1 (p. 259 *supra*).

Court A The great court A in which stūpa 1 stands measures some 270 ft. north and south by 190 ft. east and west, including the rows of chambers on its south and west sides (V1–V5 and W1–W5). These chambers are of coursed rubble repaired in diaper. We may infer, therefore, that they were built at the same time as the stūpa and repaired some time after the great earthquake. They were probably contemporary with the row of chambers E1–E2, F1–F3, T2–T7 on the west side of the Great Stūpa. The chambers on the south (V1–V5) were also rebuilt in part in the early medieval period. It is to the latter period that the entrance to court A from the stūpa area belongs, as well as the walls to right and left of it—the former at the back of V4–V5. The entrance in question is approached by a short flight of steps on its southern side. Built into the wall on the right of the

steps is a small Gandhāra relief, depicting in all probability the food offering of the two merchants, Trapussa and Bhallika, to the Buddha ('Stone Sculptures', ch. 36, no. 114).

With the exception of stūpa 4 and the small quadrangle B enclosing it, none of the other remains in court A is earlier than the second century A.D., and most of them, including the surround wall on the east, are referable to the medieval period.

Stūpa 4, which was enclosed in the small court B on the west side of the great court, cannot be far removed in date from stūpa 1. In construction and design it is virtually the same as the latter, though on a smaller scale, its plinth measuring 20 ft. square, with a stepped approach projecting about 10 ft. from the south side. Its only decoration is the usual torus and scotia base moulding supporting four pilasters on the east, west and north sides.[1] Fragments of lime plaster with red paint were found on one of the angle projections. Stūpa 4

In the centre of the plinth, immediately below its foundations, was a square block of kañjūr stone with a small receptacle (8·5 in. square and about 6 in. deep) hollowed in the middle. In the latter was a globular casket of grey schist, 3·2 in. high (Pl. 65, *a*), containing the following objects:

(1) A tiny gold casket, 0·75 in. diam., with bone relics; (2) a silver coin of Azilises of the type 'Mounted king and standing Dioscuri' (*P.M. Cat.* no. 327, p. 134); (3) a silver coin of Augustus Caesar; (4) a tiny shield-shaped ornament of thin gold sheet; one gold and one garnet bead; pieces of bone, shell, coral and turquoise, and a number of tiny seed pearls.

The presence of the two silver coins corroborates the conclusion previously arrived at on other grounds that the Śaka emperor Azilises was a contemporary of Augustus Caesar. It is likely enough that both emperors were reigning when this stūpa and stūpa 1 were erected.

For five centuries at least after their erection the courts in which the above stūpas stood seem to have been preserved at the same level, and it is not until well on in the medieval period, i.e. after the sack of the monasteries belonging to the second stratum (late fifth century A.D.), that they became filled with fallen debris, and that structures referable to the latest stratum were built over the older ruins. This explains why the small stūpas 2 and 3, erected in the fourth or fifth century A.D., as well as a number of chambers of the same or even later date, stand on the same level as stūpas 1 and 4, notwithstanding that the levels of the monasteries on the north and east had risen by several feet. Stūpas 2 and 3

Of stūpa 3 nothing is now left but two courses of semi-ashlar masonry. Stūpa 2 stands on a plinth of similar masonry, 2 ft. 6 in. high and 13 ft. square (Pl. 62, *b*). Of the superstructure, which was faced with kañjūr and finished in lime plaster, only about 2 ft., with two bands of reliefs, have survived. In the lower band is a row of Atlantes alternating with the forefronts of lions; in the upper, a row of stunted Corinthian pilasters alternating with seated images of the Buddha in relief.

[1] *A.S.R.* (1934–5), pp. 29–30, and Pl. VII, *c*.

The decoration is similar to that on many small stūpas at Jauliāñ[1] and other sites, and is characteristic of fourth-fifth century work. No relics were found in either stūpa 2 or stūpa 3.

As the courts A and B were kept open and at their original level until well on in the medieval period, their excavation, in spite of the deep accumulation of debris (some 16 ft.) above them, yielded little or no stratigraphical evidence. Numerous minor antiquities were found in the debris, but, while some of the earliest occurred near the surface, not a few of the latest occurred low down or on the floor of the courts. The most noteworthy of these antiquities are as follows:

Minor antiquities from court A

Pottery. Ch. 23, no. 51 (*handi*); nos. 57 and 58 (flat-bottomed jars); no. 63 (bell-shaped vessel); no. 67 (spouted *kuza*); no. 99 (bowl); no. 111 (handled frying-pan); no. 141 (female figure holding lamp); no. 159 (*konora*); no. 162 (bellows-pipe); no. 187 (pot-cover); no. 250 (cylindrical jar with stamped incuse pattern); nos. 252 and 253 (lion masks); no. 267 (stamp); no. 271 (hut-cover).

Terra-cottas. Ch. 24, no. 50 (head of Hellenistic figurine); nos. 90 and 93 (toy animals); nos. 111 and 114 (animal rattles); no. 121 (toy whistle); no. 169 (head of ascetic); no. 172 (Bodhisattva head).

Stone. (*a*) Rectangular *āyāgapaṭa* plaque of slate with square depression in centre surrounded by floral and lineal devices. Size 3·6 × 2·8 × 0·3 in. Dh. '34–173; sq. 12·18'; 7 ft. below surface. For another *āyāgapaṭa* plaque from the Bhir Mound, cf. 'Terra-cottas', ch. 24, no. 56. (*b*) Square plaque of sandstone, 2·75 in. sq. × 0·3 in., decorated, on one face, with figures of a boar and deer in two opposite corners and floral devices in other corners; on other face with incised concentric and floral devices in corners. Dh. '34–850; sq. 19·35'; 16 ft. below surface. (*c*) Circular grinding-mill of limestone in two parts, with hole for shaft in centre of both and groove for handle in upper one. Diam. 12·3 and 13·5 in., respectively. Dh. '34–205; sq. 19·32'; 5 ft. below surface.

Iron. Ch. 27, nos. 78, *a* and 88 (arrow-heads); no. 195 (spud); no. 205 (sickle).

Copper and Bronze. Ch. 28, no. 402 (*triratna*); no. 415 (finial of copper plated with gold).

Finger-rings. Ch. 31, nos. 22 and 23 (of copper); no. 61 (of onyx); no. 69 (of glass).

Bone and Ivory. Ch. 32, no. 53 (mirror handle).

Shell. Ch. 33, nos. 23, 26, 31 and 32 (bangles); no. 45 (roundel).

Glass. Ch. 35, no. 19, *b* (lump of brilliant opaque red glass).

Stone Sculptures. Ch. 36, no. 16 (volute bracket); no. 20 (elephant bracket); no. 21 (bull bracket); no. 32 (volute from acanthus capital); no. 40 (pseudo-Corinthian pilaster); nos. 63 and 64 (panelled pilasters); nos. 71 and 85 (false gable-windows); no. 88 (fragment from drum of stūpa); no. 112 (damaged frieze depicting cult of Buddha's alms-bowl); nos. 126 and 127 (parts of Buddha images); nos. 155, 166 and 170 (heads of monks); no. 156 (Buddha head); no. 161 (head framed in lotus wig); nos. 164, 174 and 175 (Bodhisattva heads); no. 179 (statuette in round of early Gandhāra School); no. 185 (standing male figure). Also, statuette in round of standing male figure (? Kuvera) with spear in right hand, cock (?) in left. Halo, with beaded border, behind head. Wears elaborate head-dress, ear-pendants, necklaces, armlet and bracelets. Coarse workmanship of fourth to fifth century A.D. Impure potstone. Height 8 in.; Dh. '34–188; sq. 11·31'; 14 ft. below surface,[2] Pl. 65, *h*.

Coins. Thirty-four miscellaneous coins were found separately in the deep accumulation of debris which covered this court, but no inferences can be drawn from their stratification. Local Taxilan coins were found within 2 ft. of the surface, some of Vāsudeva as deep as 17 ft. The thirty-four pieces, which were all of copper, comprised:

[1] E.g. Pls. 156, 157.

[2] Cf. *A.S.R.* (1934–5), p. 31 (1) and Pl. VIII, *f*, no. 1.

No.	Ruler	Type	Depth below surface (ft.)
1	Local Taxilan	*Chaitya* and crescent and Brāhmī *go* on both sides. Cf. 'Coins', ch. 38, p. 761, no. 2	2
2	Ditto	Lion and blank.	2
1	Kadphises I	Bust of Hermaeus and Heracles. R.U.C. nos. 225–30	13
1	Soter Megas	Radiate bust of king and horseman	3
1	Kanishka	King at altar and defaced	5
1	Huvishka	King on elephant and Moon-god	5
2	Imitation Huvishka	King on couch and Śiva	5–14
4	Vāsudeva	King at altar and seated goddess	13–17
12	Ditto	Ditto and Śiva and bull	4–16
8	Sasanian (? Shāpur II)	Bust of king and squat fire-altar	3–14
1	Uncertain	Crude standing figure and square in dotted circle. R.U.C. ch. 39, nos. 344–6	11

Beads. Ninety-one beads from the same area are shown in the following table:

Shape	Carnelian	Agate	Amethyst	Garnet	Lapis-lazuli	Crystal quartz	White and grey marble (?)	Faience	Shell	Glass, colourless	Glass, blue	Glass, green	Glass, opaque red	Glass, black	Total
Spherical	6	6	1	2	1	1	—	—	4	1	1	2	1	1	27
Oblate	5	2	—	—	—	—	—	—	5	—	—	—	—	—	12
Barrel	—	2	—	—	1	—	—	—	4	2	—	—	—	—	9
Barrel, triangular	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1
Barrel, hexagonal	—	—	1	—	—	—	—	—	—	1	—	—	—	—	2
Plano-convex	—	1	—	—	—	—	—	—	—	1	—	—	—	—	2
Disk	—	—	—	—	—	—	2	—	2	—	—	—	—	—	4
Disk, bicone	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1
Disk, hexagon	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1
Cylinder	—	—	—	—	1	—	—	—	5	2	—	—	1	—	9
Faceted	—	—	—	—	—	—	1	1	—	—	—	—	—	—	2
Tabular	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1
Gadrooned	—	—	—	—	—	—	—	3	—	—	—	—	—	—	3
Leech, triangular	—	1	—	—	—	—	—	—	—	—	—	—	—	—	1
Segmented	—	—	—	—	—	—	—	—	—	2	1	—	—	—	3
Granulated	—	—	—	—	—	—	—	1	—	—	—	—	—	—	1
Minute	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Pendant, bud	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1
Natural shapes	—	—	—	—	—	—	—	—	5	—	—	—	—	—	5
Tortoise	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1
Irregular and nondescript	1	—	—	—	—	—	—	—	3	—	—	—	—	—	4
Total	12	12	3	2	3	1	3	7	31	9	2	2	3	1	91

Pottery. Ch. 23, no. 158 (ladle). Also: (*a*) Handled censer of earthenware similar to no. 133. (Dh. '31–247; sq. 14·35'; 6 ft. below surface.) (*b*) Cup-shaped censer of earthenware with animal-headed handle. Length 9·4 in. (Dh. '34–103; sq. 11·34'; 6 ft. below surface.) Pl. 65, *b*. (*c*) Round-bottomed cup-shaped strainer of earthenware. Diam. 5·3 in. (Dh. '34–686; Minor antiquities from Court B

sq. 14·39′; 17 ft. below surface.) (*d*) Heart-shaped pendant of copper. Height 2·87 in. (Dh. '31–347; sq. 15·37′; 9 ft. below surface.) (*e*) Heart-shaped lamp of slate, cf. 'Stone', ch. 25, nos. 109–13. (Dh. '34–299; sq. 13·38′; 11 ft. below surface.) (*f*) Ovoid weight of hornblende-gneiss with groove round body for cord. Height 9 in. (Dh. '34–497; sq. 10·36′; 11 ft. below surface.) (*g*) Frieze of phyllite of Gandhāra School but crude workmanship, with two female dancers and two flute-players. Length 14·25 in. (Dh. '34–1; sq. 9·34′; 3 ft. below surface.) (*h*) Upper part of lay-worshipper, of phyllite. Gandhāra School. Height 7·4 in. (Dh. '34–540; sq. 13·38′; 16 ft. below surface.) (*i*) Stucco head of Bodhisattva. Height 6·5 in. Pl. 65, *c*. Cf. *A.S.R.* (1934–5), p. 31 and Pl. VIII, *c*. (Dh. '34–680; sq. 12·36′; 16 ft. below surface.) (*j*) Stucco head of lay attendant, with traces of red paint on head-dress, eyes, nose and lips. Height 3 in. (Dh. '34–584; sq. 11·36′; 12 ft. below surface.) (*k*) Stucco bunch of leaves for canopy, picked out in red on lime slip. Diam. 5·2 in. (Dh. '34–45; sq. 10·41′; 9 ft. below surface.) From chamber W2 on west of court B.

Coins. Besides the coins in stūpa 4, thirteen other coins were found in the deep debris covering court B, viz.:

One Local Taxilan of '*Chaitya* and crescent' type, repeated on obv. and rev. 10 ft. below surface.

One Azes II, 'King on horseback and Zeus standing' type. 16 ft. below surface.

Eleven Vāsudeva, five of 'Seated goddess' and six of 'Śiva and bull' type. From 6 to 16 ft. below surface.

The last mentioned included a group of four of the 'Seated goddess' type found at a depth of 15 ft. in one of the chambers on the north side of the court (sq. 17·38′).

Beads. Beads recovered from the ruins of court B and the adjacent chambers on the west numbered nineteen, as set forth in the following table:

Shape	Carnelian	Agate	Chalcedony	Lapis-lazuli	Steatite	Shell	Glass, colourless	Glass, blue	Glass, green	Glass, opaque yellow	Glass, red	Glass, opaque red	Glass, striped	Total
Spherical	1	1	1	—	—	—	—	2	—	—	—	—	—	5
Barrel	—	—	—	—	—	1	—	—	1	—	—	—	—	2
Disk	—	—	—	—	1	1	1	—	—	1	—	—	—	4
Cylinder	—	—	—	1	—	—	—	—	—	—	1	1	—	3
Bicone, hexagonal	—	—	—	—	—	—	1	—	—	—	—	—	—	1
Irregular and nondescript	—	1	—	—	—	1	—	—	1	—	—	—	1	4
Total	1	2	1	1	1	3	2	2	2	1	1	1	1	19

Court G

In the latter part of the second or early part of the third century A.D. (not later than the reign of Vāsudeva) new accommodation was provided for the inmates of this *saṅghārāma* by constructing a large court of cells (G) on the north side of the stūpa-court A as well as a court of assembly and three other chambers (G*a*–G*d*) in a group at the entrance to the new court, where they encroached upon part of the stūpa-court itself. The new court of cells was the first of its kind on this site—the first, that is to say, in which the cells were arranged in a quadrangle facing inwards, with a veranda on the inner side and, no doubt, an upper story. In plan, it is approximately square, measuring some 203 ft. each way, and apparently comprising fifty-two cells on the ground-floor, and as many more, presumably, on the upper

floor, though half of those on the east and south sides, which are buried beneath the remains of the later court H, have yet to be excavated. The double-storied veranda in front of the cells stood on a plinth 20 ft. wide and rising 3 ft. 3 in. above the centre of the court. The plinth was paved with limestone slabs for a width of 6 ft. from its outer edge, where it was unprotected by the wooden veranda above it; the rest was of beaten earth. An abundance of charred wood and iron clamps in the veranda and in the centre of the court left no doubt about the nature of the materials of which the veranda was constructed.

Descending from the raised plinth into the centre of the court were four sets of steps, one in the middle of each side, but only two of these—on the north and west sides—have so far been exposed. The floor in the centre of the court seems to have been of rammed earth only. There was an outlet for rain-water under cell 4 on the western side, and a bathroom (16 ft. 6 in. square) at the south-east corner of the court, with steps descending to it near its western side.

A little in front of the steps on the north side of the open court is the base of a small rectangular stūpa (12 × 10 ft.) of semi-ashlar masonry, with steps on its south side.

Structure on north side of court G

Outside court G and abutting against the back of its north wall, is a massive structure, 40 × 38 ft., constructed of the heaviest type of semi-ashlar masonry, with walls battered at the base. Mr Siddiqi takes this to be the plinth of another and larger stūpa, but it seems more probable that it was in the nature of a defensive bastion and watch-tower. I know of no instance of the side of a stūpa being engaged in this way in the wall of another structure, though there are many instances of image-chapels being built against the sides of half-ruined stūpas. On the other hand, there is a similar bastion built against the north wall of the Bhamāla monastery (*q.v.*), and such bastions were a familiar feature in the defences, not only of cities and small fortresses, but of private houses also.[1] We must remember, too, that one of the principal *raisons d'être* of these massive quadrangular monasteries was the greater security which they afforded in times when the countryside was overrun by bands of robbers and marauders.

Hall of assembly and common-rooms of monastery G

In other *saṅghārāmas* of the Kushān and later periods (e.g. at Jauliāñ, Mohṛā Morādu and Bhamāla)[2] the hall of assembly, and later the refectory and kitchen, were placed on the side of the court of cells which was furthest from the stūpa-court. Here, at the Dharmarājikā, the hall of assembly (G*a*) and some other common-rooms (G*b* and G*d*) intervened between the stūpa-court on the south and the court of cells on the north, being actually built over a part of the former (Pl. 64, *b*). I use the term 'common-rooms' here, because I hesitate to believe that a refectory and kitchen would have been placed in front of the main entrance to the court of cells, and in any case it is doubtful whether refectories and kitchens were provided in any Buddhist monasteries at this early period (second to third century A.D.). On Mr Siddiqi's plan three of these common-rooms, G*b*, G*c* and G*d*,

[1] E.g. at Kotai-manai and Buchakan. *Ann. Rep. A.S.I.*, *Frontier Circle* (1911–12), pp. 3–5.
[2] Cf. Pls. 93, 101, 102 and 114.

are shown, but from photographs I have seen it looks as if the south wall of G*c* was a later addition, made probably at the time that the entrance to the assembly hall (G*a*) was blocked up. If so, the assembly hall was originally entered direct from the stūpa-court—a natural arrangement, if some of the *bhikshus* were still occupying the old cells (V 1–V 5 and W 1–W 5) on the far sides of the stūpa-court, or if it had to serve the inmates of court J as well. As to the two other rooms, G*b* and G*d*, the fact that the main entrance to the court of cells lay through them suggests that the former, which was quite small, served as an entrance lobby, the latter as a common-room, fulfilling probably the same function as the *maṇḍapa* in the old-time *saṅghārāma*.

Besides the main entrance to the court of cells which was reached through these rooms, there was a subsidiary entrance through the corner cell (52) at the south-west corner.[1]

Date of monastery G

Indications of the date of monastery G are afforded not only by the early type of semi-ashlar masonry of which it is built—masonry which resembles that used in the group of stūpas K 1, K 2, K 3, P 3, P 6 and N 4—but also by two finds which were made in, or in close proximity to, the monastery. One of these was a small earthenware pot containing 531 copper coins of Vāsudeva and one of Kanishka,[2] which had been buried beneath the floor of cell 16. The other was a small copper casket containing five copper coins of Vāsudeva, which was lying in some debris just outside the north wall. If, as seems likely, it came from the relic chamber of a stūpa, it may well have come from the small stūpa in the court of cells, but however this may be, these two groups of coins make it virtually certain that this monastery was in existence in the reign of Vāsudeva, though whether it was built in that reign, as the excavator supposes, is questionable. The earliest kind of semi-ashlar masonry goes back, as I have already shown, to about the middle of the second century A.D., and it is quite possible therefore that the monastery was erected in the reign of Huvishka or even of Kanishka I.

Minor antiquities from monastery G, including assembly and other halls on south

The small antiquities recovered from the court of cells G and its adjuncts G*a*–G*d* on the south were few. They comprised:

Stone Sculptures:

1. Standing figure of Vishṇu, of potstone (height 8·8 in.). The god is holding the usual attributes in his four hands—viz. conch, discus, club and lotus; between his legs, on the pedestal below, appears the upper part of a Garuḍa. Coarse workmanship of early medieval period. (Dh. '35–10; sq. 33·30'; 6 ft. below surface.) *A.S.R.* (1935–6), p. 35, no. 1 and Pl. XI, *a*.

2. Standing figure of Kartikeya, of potstone (height 3·2 in.). On back, a peacock—vehicle of Kartikeya. Same workmanship and date as in preceding figure. (Dh. '35–63; sq. 36·30'; 7 ft. below surface.) *Ibid.* no. 3.

[1] In his *Report* (p. 34), Mr Siddiqi says that there was a narrow passage immediately *to the east of the south-west corner cell*, but in the plan the entrance is shown in the cell itself.

[2] Viz., of Vāsudeva 474 coins of the 'King at altar and Śiva with bull' type, and fifty-seven of the 'King at altar and seated goddess' type. The single coin of Kanishka is of the 'King at altar and Moon-god' type.

3. Pillar capital of talcose schist, composed of four elephants addorsed on circular (?) base, supporting square die between them. On the neck of each elephant stood a draped figure of Nike and at each corner of the die-block was an eagle with outspread wings, as if giving further support (height 8·25 in.). Elephant capitals were familiar in the Early Indian School, e.g. on the east gateway of the Great Stūpa at Sāñchī, as well as in Gandhāra. For the eagle motif, which is of foreign origin, cf. 'Copper and Bronze Objects', ch. 28, nos. 323 and 326 (Dh. '34–750; sq. 22·31'; 13 ft. below surface). *A.S.R.* (1934–5), p. 31, no. 2, and Pl. VIII, *e*. Pl. 65, *e*.

4. Mutilated pillar of phyllite, with bell-shaped capital decorated with acanthus leaves (height 6·75 in.). Gandhāra School. (Dh. '31–131; sq. 24·27'; 2 ft. below surface.)

Copper:

5. Copper finial in form of *triratna* supported on crescent and surmounted by three wheels (*dharmacakra*). Below crescent, part of moulded staff. Height 7 in. Cf. 'Copper and Bronze', ch. 28, nos. 402–5 and 'Jewellery', ch. 30, no. 101. (Dh. '34–918; sq. 31·30'; 9 ft. below surface.) Pl. 65, *d*.

6. Three antimony-rods of copper, length 5·12, 3·37 and 3·58 in. respectively. (Dh. '31–239, 5 and 65.) Two came from the entrance portico G*b* and one (no. 5) from the surface debris over the assembly hall.

Terra-cottas:

7. Square plaque of terra-cotta with floral devices within beaded border on both faces. Size 3·15 in. sq. × 0·5 in. (Dh. '34–944; sq. 30·29'; 10 ft. below surface.) Pl. 65, *g*.

8. Flat circular rattle with stamped devices on both convex surfaces. Diam. 3·25 in. (Dh. '34–894; sq. 29·33'; 10 ft. below surface.)

Coins. In addition to the large find of copper coins made in G 16, a small but valuable hoard of gold coins was unearthed at a depth of 15 ft. in G*c*. It comprised: two gold pieces of Bhadra of the 'King at altar and throned Ardochsho' type (R.U.C. ch. 39, nos. 271–2); four gold pieces of the Kidāra Kushāns of similar type (*ibid.* no. 273); eleven pieces of later Kidāra Kushāns of similar type, but of debased gold (*ibid.* no. 274); two gold pieces of Chandragupta II of 'Archer' type (*ibid.* no. 276).

Only four other coins were recovered from this area, viz. two of Azes II ('Standing Zeus' type) at depths of 10 and 13 ft. in court G, and one each of Kadphises I and Vāsudeva in the assembly hall at a depth of 14 ft. ('Bust of Hermaeus and Heracles' and 'Śiva and bull' types.)

Beads. The beads numbered twenty-three and were of the following varieties:

Shape	Car-nelian	Agate	Faience	Shell	Glass, colour-less	Glass, blue	Total
Spherical	3	2	—	2	—	—	7
Oblate	3	1	—	1	1	—	6
Barrel	—	1	—	1	1	—	3
Disk	—	—	1	1	—	—	2
Domical	—	—	—	—	—	1	1
Cylinder	—	—	—	1	—	—	1
Gadrooned	—	—	1	—	—	—	1
Pendant, drop	1	—	—	—	—	—	1
Irregular and nondescript	—	1	—	—	—	—	1
Total	7	5	2	6	2	1	23

Court J, lowest stratum

About the same time as the great court of cells G and its adjuncts on the south were built, the smaller court J was also added on the eastern side of the stūpa-court. The original structure, which is buried beneath heavy remains of a later date, has been opened to view only on its external faces; its interior plan has still to be disclosed. It would be natural to assume that this plan was approximately the same as in the later edifices on the same site (Pl. 61), in which there were some nine cells and four other larger apartments on the ground-floor. But the presence of a large doorway near the northern end of the west wall, of three fair-sized windows in the northern wall, and of another window (?) towards the southern end of the west wall—all blocked up in later times—suggest that the interior may at first have been planned quite differently and only afterwards converted into a court of cells. This is a point, of course, that the spade can at any time settle.

The only small antiquities recovered as a result of a few soundings from this early level were a disk of shell (diam. 2·37 in.) decorated with incised rosettes and circlets within dotted border,[1] and a terra-cotta mould of a draped female figure ('Terra-cottas', ch. 24, no. 148), which may be a stray from one of the upper levels.

Destruction and reconstruction of monastic courts

The monastic courts described above, along with other buildings then standing on the site, appear to have been very thoroughly destroyed by enemy action. In the reconstruction which took place after this catastrophe no attempt was made to restore the large court G on its original plan. In its place the much smaller court H—a fourth the size of the older structure—was built over the ruins of its south-east quarter. The reason for thus contracting the area may have been that the *saṅgha* had now shrunk in numbers and that less accommodation was required, but it may also have been connected with the question of defence, since all the monasteries built or rebuilt at this period were provided with exceptionally strong walls and in other respects were obviously designed to withstand assault.

Court H

Court H being erected over the ruins of court G, its floor-level was necessarily higher by several feet than that of the latter, and higher also than that of the stūpa-court A, which, as already noted, continued for some centuries to be kept clear of the debris rising around it. To meet this difference in levels, a platform had to be provided in front of the entrance to court H (in the middle of its southern side), and a short flight of steps constructed to give access to it from the stūpa-court A.[2] This platform is well illustrated in Pl. 63, *b*, where one can also see the clear line of demarcation (just above the head of the man) between the old semi-ashlar walling of court G and the new masonry of court H above it, with a few courses of still later date at the top of the existing walls. The steps which lead up to the entrance are just visible, with a man ascending them, in Pl. 62, *b*, which shows the façades of courts H and J from the south-west, with the small stūpa 2 in the foreground to the right. The shelf projecting from the façade of court H at a height of about 4 ft. from the ground, was probably intended for the display of images and other ex-votos, of which there must now have been so many in the *saṅghārāma* that the authorities could hardly have known what to do with them.

[1] Dh. '31-17; sq. 17·9'; 13 ft. below surface.

[2] Pl. 61; sqs. 19–20·19'–21'.

Court H measures 107 ft. east to west by 109 ft. north to south (Pl. 63). Excluding the entrance portico, there were nineteen cells on the ground-floor, and presumably about as many again on the first floor. The veranda plinth in front of the cells was 12 ft. broad, and the central depression approximately 47 ft. square. Water from the latter was carried off through a drain in the eastern side. In two particulars this court differs from the normal monastic court of the period: there is no bathroom at the corner of the central depression, and no stairway ascending to the upper story. Once, of course, there must have been a stairway, but it was no doubt made of wood and has inevitably perished. The remains of a bathroom which appear in the plan near the south-east corner of the central depression belong, not to this court, but to the earlier court G. The doorways of the cells had sloping jambs resembling those at Jauliāñ and other contemporary monasteries. Some of the jambs were made of upright blocks of kañjūr, others of piles of small, roughly squared horizontal slabs, but in every case they were covered, as the walls were also covered, with a thick coat of mud plaster. Inside the cells were small niches for lamps.

Court H was burnt out and reduced to ruin, probably at the hands of the White Huns, in the latter part of the fifth century A.D., when not only the Dharmarājikā but every other Buddhist settlement then standing in the neighbourhood of Taxila was destroyed. Evidence of the catastrophe which then overtook court H was to be seen all too clearly in the masses of charred timber, iron clamps, nails and other fittings with which the open quadrangle and cells were littered, and in a heap of half-burnt wheat in front of cell 8. Other antiquities found in court H and probably referable to this period include the following:

Minor antiquities from court H

1. Earthenware incense-burner consisting of a bowl supported on the forefronts of four elephants, with perforated cover. Height 4·4 in. (Dh. '34–754; from cell 19.) Pl. 65, *f*.

2. Half of jeweller's mould of schist, engraved on face with four pendent rosettes; length 4·25 in. The mould is provided with channels for pouring in the metal and with two socket holes for adjustment to the other section. Cf. 'Stone Objects', ch. 25, nos. 141–52. (Dh. '34–75; from cell 18.)

3. Gold medallion of crude workmanship with two heads *repoussés* and a hole above for suspension. Diam. 0·87 in. From near middle of court. (Dh. '31–356; sq. 26·21'.)

Shape	Carnelian	Agate	Chalcedony	Lapis-lazuli	Malachite	Marble	Shell	Glass, colourless	Glass, opaque red	Total
Spherical	3	3	—	1	—	—	—	1	—	8
Oblate	—	—	—	—	—	—	1	—	—	1
Barrel	—	—	1	—	—	—	1	1	—	3
Disk	—	—	—	—	1	—	3	—	—	4
Cylinder	—	—	—	—	—	1	1	—	1	3
Vase-shaped and gadrooned	—	—	—	—	—	—	1	—	—	1
Natural	—	—	—	—	—	—	6	—	—	6
Nondescript	—	—	—	—	—	—	—	2	—	2
Total	3	3	1	1	1	1	13	4	1	28

4. Cup-shaped shallow mortar of granite. Diam. 10·5 in. Cf. 'Stone Objects', Class VI. (Dh. '30–662; sq. 27·24'.)

5. Portions of two earthenware *kuzas* of same type as 'Pottery', ch. 23, nos. 66–9. (Dh. '30–392 and 464; sqs. 27·20' and 22'.)

6. Copper coin of Azes I, of 'King seated and Hermes' type. (Dh. '35–909; from cell 19.)

7. Ditto of Vāsudeva, 'Śiva and bull' type. (Dh. '31–729; from cell 17.)

8. Beads to the number of nineteen were found in cells 1, 3, 5, 12 and 17, and nine more, making twenty-eight in all, were found in the court quadrangle. Their shapes and materials are shown in the table on p. 285.

Later reconstructions

The *saṅgha* at Taxila never recovered from the widespread havoc wrought by the Huns. At the Dharmarājikā some of the stūpas and chapels were eventually repaired and the living-quarters of the monks were rebuilt, but a long time seems to have elapsed before this was done, and the new work was very poor compared with the old. Thus, in order to save labour in the rebuilding of court H, the fallen debris was left lying where it was and the floor-level of the court and cells was raised by some 3 or 4 ft., the old doorways being filled in with stonework up to that height and a new drain constructed at a higher level for carrying off rain water from the central depression. How this was done can be seen in the two photographs reproduced in Pls. 63, *a* and 64, *d*, the former of which shows the blocked-up doorways of cells on the west side of the court, and the latter the drains of two successive strata, the lower dating from the period of which we are now speaking,[1] the upper from a still later period when the monastery was again burnt down and rebuilt. Another illustration of these successive rebuildings may also be seen in Pl. 64, *c*, where the well-built plinth at the bottom of the picture and the pylon against which the boy is standing belong to the original structure; the lower in-filling in the doorway to the first rebuilding, corresponding with the lower drain in the preceding picture; and the upper in-filling to the later rebuilding, corresponding with the upper drain.[2]

The only minor antiquities found in these later levels of court H were as follows:

From the debris between the first and second rebuilding:

1. Lower section of grinding-mill of limestone with small socket-hole for pivot. Diam. 15 in. (Dh. '30–546; sq. 26·18'; 3 ft. below surface.) Cf. 'Stone Objects', ch. 25, Class V.

2. Irregular oval weight of granite with a groove around body for fastening. Height 10·6 in. (Dh. '30–186; cell 17.)

3. Handled censer of earthenware = 'Pottery', ch. 23, no. 133.

From surface debris:

4. Volute bracket of micaceous schist in form of female figure springing from acanthus leaves. Length 9·85 in. The bracket is generally similar to 'Stone Sculptures', ch. 36, no. 16 and possibly comes from the same stūpa. (Dh. '30–123; sq. 21·22'; 1 ft. below surface.)

5. Volute bracket of schist in form of male figure springing from acanthus base = 'Stone Sculptures', ch. 36, no. 17.

[1] I.e. after the devastation caused by the Huns.

[2] It should be noted that in Mr Siddiqi's plan (Pl. 61) both of these later rebuildings, if shown at all, are shown simply as 'stratum I'.

6. Part of capital of phyllite in form of pair of addorsed bulls. *Ibid.* no. 33.

7. Framed Indo-Persepolitan pilaster of phyllite with capital of addorsed bulls. *Ibid.* no. 39.

8. Mutilated relief of horse of hornblende schist. Length 5·62 in. (Dh. '30–216; sq. 28·20'; 2 ft. below surface.)

9. Mutilated head of red Mathurā sandstone with hair parted in middle. Height 6·62 in. (Dh. '30–217; sq. 28·17'; 2 ft. below surface.)

10. Iron weeding-fork = 'Iron Objects', ch. 27, no. 202.

11. Iron sickle, *ibid.* no. 204.

12. Iron bell with ring-handle. Height 5·5 in. (Dh. '30–184; sq. 27·24'; 2 ft. below surface.)

13. Handled earthenware censer similar to no. 2 *supra.* Height 2·4 in. (Dh. '30–71; sq. 30·22'; 2 ft. below surface.)

14. Miniature hand-made *doli* of earthenware with cuneiform patterns on body. Height 2·25 in. (Dh. '30–135; sq. 25·26'; 2 ft. below surface.)

Court J

Court J, to the east of the stūpa-court A, suffered the same disasters and was no doubt rebuilt at the same times as its neighbour on the north. Of the original building I have already spoken (p. 284). When, after its initial destruction, the court was re-erected, the interior was raised several feet above the floor-level of the stūpa-court, just as it was in the case of court H. At the same time the old entrance towards the northern end of the western façade was blocked up together, probably, with the windows in the north façade, and a new entrance made in the middle of the west façade, with a flight of seven steps to give access to it from the stūpa-court. The lay-out of the interior is shown in the plan on Pl. 61, which was completed by Mr Siddiqi after I had left Taxila. Though on a smaller scale and with only thirteen chambers, it is much the same as that of the larger court on the north, the main difference between them being that on the north side of court J the usual sleeping cells are replaced by two large rooms (5 and 6), which doubtless served as common-rooms for the monks. It is to be noted, however, that most of the interior walls appearing in this plan are of a relatively late date, and may not coincide precisely with those of the second period, though the general lay-out appears to have remained substantially the same.

Skeletal and other remains in court J

Most interesting of the finds made in court J was a group of human skeletons. Five of these skeletons were lying in the open quadrangle (sqs. 16–17·11' and 15·10'), where there had obviously been a massacre, some of the heads being severed and separated from the bodies. After the massacre the building was burnt down, and the bodies were crushed and charred beneath the burning timbers and falling masonry. A sixth skeleton was found in room 2 on the west side of the court, hidden among a number of large store-jars, which were also crushed beneath the fallen masonry.

On the same level as the skeletons and partly in association with them were found the following objects:

Minor antiquities

(*a*) Fragments of a much charred birch-bark manuscript from Room 12. (Dh. '30–323; sq. 14·11'.) Length up to 5 in. It is written in Brāhmī characters of *c.* fifth century A.D. The few fragments that are legible have been read by Dr N. P. Chakravarti, Government Epigraphist as follows:

No. 1 (two pieces, A, B).

Obv.	A, line	3	. . . la (sattitmā?) sadyaṁ tā ye tasthū
		4	. . . (kshatri)ya—brahmaṇa-viṭ-cchūdrā. . .
	B,	3	. . cha kuśalaṁ karma samādāna (taṁ tena). . .
		4	. (ṁ m)ulasutra. kena vādī karma ko. . . .
Rev.	A,	2	. . (he)mabhava. . .
	B,	2	. . . mahāgu(na). . . .
		3	. tra. . cha mahāyānasy = āvatāra. . .

No. 3 (two pieces, A, B).

Obv.	A, line	3	. . . bhavataḥ katame. . .
	B,	2	. . . . rāchhi
		3	. . karme. . . .

No. 7 (three pieces, A, B, C).

Obv.	A, line	1	. . . ryakaiḥ dharme. . . .
		2	. . . dyākuśala(ṁ) karma.
	B,	3	yacchati chā. ke. . . . .
	C,	2	. . . . sa satai daśayati tatra tatr = aikam.
		3	. . . nāśayati yena samādhyah
Rev.	Nil.		

No. 8 (three pieces, A, B, C).

Obv.	A, line	1	hetuvādināṁ nā. . . .
	B,	1	. panneshu kechid. . . panna. . . .
		2	. . p(ra)tijñā. . . .
	C,	4	. . kuśalamulaṁ. . . .
Rev.	C,	2	. . sattitmā. . .
		3	. . daśayati yena. . di-karme. . . .

Dr Chakravarti notes that the script resembles that of the Jauliāñ MS. (p. 387), with which it is approximately contemporary. Terms like mahāyāna, kuśalamūla and hetuvādin show that the MS. was Buddhist.

(*b*) Twenty-five coins comprising issues down to the close of the fifth century or thereabouts, as shown in the Table below. Twelve of these coins were found in room 6, ten in room 12, one in room 1, and two in the quadrangle.

(*c*) 198 beads, as shown in the table below. Of these, 185 were found in room 12, eleven in room 6, and two in the open quadrangle by the side of the skeletons. The glass beads are for the most part green or blue or colourless. One specimen only is of grey, and one of opaque red colour.

On the strength of these finds, particularly of the birch-bark manuscript and coins, it seems reasonable to conclude that the massacre in this court was the work of White Hun invaders towards the end of the fifth century A.D., and it is interesting to find that this conclusion receives some confirmation from the character of the human remains themselves. These remains have been exhaustively examined by Dr B. S. Guha, Anthropologist to the Zoological Survey of India, and Messrs S. Sarkar and H. K. Bose, whose combined report on them is printed in the following chapter. Five of the six skeletons are of a short to medium-statured dolichocephalic people with large brains, long faces, broad cheek bones, strong chins and

Skeletal remains

COINS FROM COURT J, FROM SAME LEVEL AS SKELETAL REMAINS

Rulers	Room 1	Room 6	Room 12	Court	Metal	Type
Azes II	—	—	1	—	Æ	'King on horseback and Zeus Nikephoros'
Soter Megas	—	1	—	—	Æ	'Bust of king and king on horseback'
Kadphises I	—	1	—	—	Æ	'Bust of Hermaeus and Heracles'
Kadphises II	1	—	—	—	Æ	'King at altar and Śiva with bull'
Vāsudeva	—	—	7	1	Æ	'King at altar and Śiva with bull'
Vāsudeva	—	—	1	—	Æ	'King at altar and seated goddess'
Kidāra Kushān	—	7	—	—	AV debased	'King at altar and enthroned Ardochsho.' Cf. R.U.C. ch. 39, nos. 273–4
White Huns	—	3	—	—	AR	'Beardless head of king and fire altar with attendants.' Cf. *ibid.* no. 313
Indo-Sasanian	—		1	—	Æ	'Bust of king (with leaves above head-dress) and fire altar'
Sasanian	—	—	—	1	Æ	'Bearded bust of king and fire altar with heavy base'
Total	1	12	10	2	25	

DS FROM COURT J, FROM SAME LEVEL AS SKELETAL REMAINS

Shape	Carnelian	Agate	Garnet	Lapis-lazuli	Crystal quartz	Jasper	White marble	Pearls	Coral	Faience	Shell	Glass	Total
Spherical	6	1	5	2	—	—	—	—	—	—	15	3	32
Oblate	1	—	—	1	—	—	—	—	—	—	—	6	8
Barrel	—	1	2	1	1	—	—	—	—	—	3	2	10
Barrel, triangular	1	—	—	—	—	—	—	—	—	—	—	—	1
Barrel, hexagonal	—	—	—	—	1	—	—	—	—	—	—	—	1
Disk	—	—	—	—	—	—	—	—	—	—	3	—	3
Cylinder	—	—	—	—	1	—	—	—	4	—	3	1	9
Cylinder, triangular	—	—	—	—	—	—	—	—	—	—	—	4	4
Bicone, square	—	—	—	—	—	1	—	—	—	—	—	—	1
Bicone, flat truncated	1	—	—	—		—	—	—	—		—	—	1
Tetrahedral	1	—	—	—	—	—	—	—	—	—	—	—	1
Twenty-four sided	—	—	—	—	1	2	—	—	—	—	—	—	3
Gadrooned	—	—	—	—	—	—	—	—	—	—	—	1	1
Collared	—	—	—	—	—	—	—	—	—	—	—	4	4
Segmented	—	—	—	—	—	—	—	—	—	—	—	4	4
Granulated	—	—	—	—	—	—	—	—	—	1	—	—	1
Spacer (star)	—	—	—	—	—	—	—	—	—	—	1	—	1
Pendants	—	—	—	1	—	—	—	—	—	—	—	—	1
Pendants, vase-shaped	—	—	—	—	—	—	—	—	—	—	—	1	1
Pendants, claw	—	—	—	—	1	—	—	—	—	—	—	—	1
Pendants, *triratna*	—	—	—	1	—	—	—	—	1	—	—	—	2
Natural shapes	—	—	—	—	—	—	—	35	17	—	4	—	56
Nondescript	2	—	11	—	—	—	1	—	—	—	10	28	52
Total	12	2	18	6	5	3	1	35	22	1	39	54	198

high-pitched narrow noses. The skulls of these people, who may be assumed to have been inmates of the monastery at the time of the massacre, show a general correspondence, according to Dr Guha, with those of the Mohenjo-daro I type and certain skulls from Al-Ubaid published by Sir Arthur Keith, though the face is longer and the nose finer than in the majority of these prehistoric Indus and Mesopotamian skulls. They also show affinities with some of the isolated modern tribes, such as the Red Kāfirs living in the remote valleys of the North-West. The other skull (no. 5 of Dr Guha's list) is quite different. It is essentially brachycephalic with a high cranial vault, short, squarish face and long prominent nose, its outstanding features being the lofty conical dome and flattened vertical occiput. According to Dr Guha, the closest analogies to this skull are afforded by certain modern Tadjik skulls from Kashgar and the Tarim Basin in Central Asia and by others from cemeteries of the early Christian era at Yingpān, a little south of Turfān, and at Yangī Hissar. Yingpān is situated on the boundary of the ancient homelands of the Huns, and for this and other reasons Dr Guha infers that the Taxila skull may well have belonged to one of the White Huns who sacked the Dharmarājikā monastery. May I also add to Dr Guha's observations on this point that the most significant features of the Taxila skull, viz. the high conical dome of the cranium and the flat vertical occiput, are also peculiarly characteristic of the heads of White Hun rulers as portrayed on their coins? This the reader can verify at a glance, if he will turn to coins nos. 300–13 on Pl. 245.

What precisely happened to the assembly hall G*a* and the other common-rooms, G*b*, G*c* and G*d*, after the erection of court H and the rebuilding of court J, is not altogether clear. The entrance lobby G*b* was now, of course, permanently closed on its north side, and as there is no evidence of any retaining walls having been inserted to support the elevated platform in front of the new entrance to court H (Pl. 63, *b*),[1] we must infer that the floor-level of the whole hall G*d* was simultaneously raised by several feet. It is also natural to suppose that the floor-level of the assembly hall G*a* and of the intervening chambers G*b* and G*c* was also raised at the same time, a retaining wall of somewhat nondescript masonry being added for this purpose along the south side of G*c* (see pp. 281–2 *supra*). That the level of these chambers had been raised at some time prior to the fifth century A.D. is demonstrated by the find of gold coins made in G*c* (p. 283 *supra*), which could only have been buried after the raising of the floor-level, since they were lying in the debris some 3 ft. above the original floor.

Monastery M5 — At the north-west corner of the stūpa area (Pl. 45) is another small monastery built of rubble and semi-ashlar. Little of it has survived except the foundations, and even these are lacking over a large section of the north and west sides. From north to south the court has a measurement of 91 ft.; from east to west of 105 ft. The chambers, of which seventeen only have survived on the south and east sides, are of varying dimensions, the largest, which no doubt included an assembly hall

[1] It will be seen from the photograph that the debris supporting this platform has been left untouched, though it has been cleared from the rest of the hall.

and common-rooms, being on the west side; the small room which juts out into the quadrangle at its north-east corner, probably served as a bathroom. There is no trace of any verandas in front of the cells or of the depression, which was usual in later monasteries, in the open quadrangle. At the centre of the latter stands the much ruined base of a stūpa, 20 ft. 6 in. square, with steps projecting another 10 ft. 6 in. from its eastern side.

The presence of this not inconsiderable stūpa in the court of cells, combined with the absence of verandas and the unequal sizes of the chambers, points to the second century A.D. as the most likely date of this monastery, which may thus have been contemporary with, or perhaps a little earlier than, the court G.[1]

Coins and beads from M5

Three small deposits of coins indicate that the building was still in occupation at least as late as the fourth century A.D. These deposits, which were found from 2 to 3 ft. below the surface, comprised the following copper coins:

(*a*) One Menander, 'Elephant head and club' type; eight Vāsudeva, viz. three of 'Seated goddess' and five of 'Śiva and bull' type; two Sasanian, 'Bust of king (? Shāpur II) and squat altar' type.

(*b*) Nine Vāsudeva, viz. two of 'Seated goddess' and seven of 'Śiva and bull' type; three Sasanian similar to preceding.

(*c*) Two Vāsudeva, 'Śiva and bull' type, and two Sasanian similar to preceding.

Other coins found singly in the debris of this building included: one Hermaeus, 'Bust of king and Nike'; three Azes I, viz. one 'King on horseback and Zeus Nikephoros' and two 'King seated and Hermes'; five Azes II, viz. two 'King on horseback and Zeus standing' and three 'Bust of king and horseman'; one Kadphises I, 'Bust of king and Heracles'; one Kadphises II, 'King at altar and Śiva with bull'; one Kanishka, 'King at altar and Śiva'; and two Vāsudeva, 'Seated goddess'.

The few beads found in this monastery are shown in the following table:

MONASTERY M5

Shape	Carnelian	Agate	Jasper	Lapis-lazuli	Crystal	Shell	Glass, colourless	Glass, red opaque	Glass, black	Total
Spherical	2	1	—	—	—	—	—	1	—	4
Oblate	2	—	—	—	—	—	—	—	—	2
Barrel	—	1	—	—	1	—	—	—	—	2
Disk	—	—	—	1	—	1	—	—	—	2
24-sided	—	—	1	—	—	—	—	—	—	1
Minute	—	—	—	—	—	—	1	—	—	1
Pear-shaped	—	—	—	—	—	—	1	—	1	2
Nondescript	—	—	—	—	—	1	—	—	—	1
Total	4	2	1	1	1	2	2	1	1	15

Comprehensive list of minor antiquities from Dharmarājikā site

Before closing this account of the Dharmarājikā digging, a few words remain to be said about the minor antiquities generally. Many of these antiquities I have already noticed in connexion with the particular buildings in which they were

[1] For a fragment of a stone pedestal from M5 bearing a mason's mark in the form of Kh. *ba*, cf. *C.I.I.* II, p. 91, Pl. XVII, 5-5. Dh. '13-18; M5; length 4·37 in.

List of coins found at the Dharmarājikā

Ruler	Metal	Types, with number of specimens in brackets	Total no.	References[1]
Local Taxilan	Æ	R.U.C. ch. 39, nos. 5 (1), 7 (3), 17 (7), 32 (1)	12	
	Æ	'Coins', ch. 38, p. 761, nos. 2 (3), 3 (14), 4 (1)	18	
		Total of Local Taxilan	30	
Greek				
Menander	Æ	R.U.C. no. 51 (1)		
Menander	AR	R.U.C. no. 55 (1)	2	
Heliocles	Æ	R.U.C. no. 67 (1)	1	
Antialcidas	Æ	R.U.C. no. 72 (1)	1	
Apollodotus II	Æ	R.U.C. no. 91 (1)	1	
Hermaeus	Æ	R.U.C. no. 95 (5)	5	
Zoilus II	Æ	R.U.C. no. 107 (25)	25	
		Total of Greek	35	
Śaka				
Maues	Æ	R.U.C. no. 112 (1)		
Maues	Æ	Caduceus and elephant's head (2)	3	*P.M. Cat.* x, 5
Azes I	Æ	R.U.C. nos. 136 (14), 138 (1), 142 (1), 149 (2), 152 (3), 155 (4), 'Bull and lion' (2)	27	*Ibid.* xii, 263
Azilises	Æ	'Hephaestus and lion'	1	*Ibid.* xiv, 369
Azes II	Æ	'King on horseback and Zeus Nikephoros'	28	*Ibid.* xi, 126
Rājūvula	Æ	R.U.C. no. 176	5	
		Total of Śaka	64	
Parthian				
Vonones	Æ	R.U.C. no. 132 (1)	1	
Gondophares	Æ	R.U.C. nos. 102-4 (1)		
		'King on horseback and Zeus Nikephoros' (1)	2	*Ibid.* xv, 20
		Total of Parthian	3	
Kushān				
Kadphises I	Æ	R.U.C. nos. 222 (4), 225 (24), 235 (1)	29	
Kadphises II	Æ	'King at altar'; 'Śiva and bull'	10	*Ibid.* xvii, 36
Kadaphes	Æ	R.U.C. nos. 240–8 (1), 249 (5)	6	
Soter Megas	Æ	R.U.C. no. 250 (3)		
Soter Megas	Æ	'Bust of king and horseman' (22)	25	*Ibid.* xvi, 100
Kanishka	Æ	R.U.C. no. 261 (1), 'Coins', ch. 38, p. 792, *a* (6), *b* (5), *c* (8), *d* (2), *e* (8), *f* (10), defaced (4)	44	
Huvishka	Æ	R.U.C. nos. 263 (1), 264 (4), 'Coins', *ibid.* *a* (8), *d* (2)	15	
Huvishka	Æ	'King on elephant and deity with purse'(?)	3	*Ibid.* xix, 160
Huvishka	Æ	Ditto and Heracles	2	*Ibid.* 162
Huvishka	Æ	Ditto and Śiva	11	*Ibid.* 151
Huvishka	Æ	Ditto and goddess with cornucopia	2	*Ibid.* 161
Huvishka	Æ	'King on couch and Moon-god'	1	*Ibid.* p. 203, no. 178
Huvishka	Æ	'King seated cross-legged and and Metal-god'	1	*Ibid.* p. 205, no. 200
		Carried forward (Kushān)	149	

[1] Where references to published catalogues are not given, they will be found in the 'List of Rare and Unique Coins' (R.U.C. ch. 39) and in the chapter on 'Coins' (ch. 38) under the numbers quoted.

Ruler	Metal	Types, with number of specimens in brackets	Total no.	References
		Brought forward (Kushān)	149	
Huvishka	Æ	Ditto and four-armed Śiva	1	*Ibid.* no. 201
Huvishka	Æ	'King seated front and deity standing'	1	*Ibid.* XIX, 204
Vāsudeva	Æ	'King at altar and seated goddess'	195	*Ibid.* XIX, 228
Vāsudeva	Æ	'Ditto and Śiva with bull'	524	*Ibid.* XIX, 216
Vāsudeva	Æ	Similar to preceding but ruder	615	
		Total of Kushān	1,485	
Late and rude imitations of Kushān coins	Æ	'King on couch and deity'	11	
	Æ	'King at altar and uncertain'	6	
		Total of Late Kushān	17	
Bhadra	AV	R.U.C. no. 271	2	
Kidāra Kushān	AV	R.U.C. nos. 273 (4), 274 (23)	27	
Chandragupta II	AV	R.U.C. no. 276 (2)	2	
Vāhi-tigīn	AR	R.U.C. no. 278	1	
Sasanian				
Shāpur II	Æ	'Bust of king and squat fire-altar', R.U.C. nos. 279–82	57	
Shāpur III	Æ	Similar. R.U.C. no. 283	15	
Khusrū II	Æ	R.U.C. no. 288	1	
Uncertain	Æ	'Bust of king and squat altar', R.U.C. no. 289	20	
Uncertain	Æ	'Bust of king with leaves above head-dress and fire-altar'	4	
		Total of Sasanian	97	
Indo-Sasanian				
Uncertain	Æ	R.U.C. nos. 344–6	4	
Uncertain	Æ	R.U.C. nos. 347–9	9	
Uncertain	Æ	R.U.C. no. 352	2	
Uncertain	Æ	R.U.C. no. 353	1	
Uncertain	Æ	'Square in dotted circle and blank'	285	
		Total of Indo-Sasanian	301	
White Huns				
Uncertain	AR	R.U.C. no. 313	4	
Toramāna	Æ	R.U.C. nos. 315–16	1	
		Total of White Huns	5	
Vinayāditya of Kashmīr	Æ	R.U.C. no. 317	1	
Sāmantadeva	Æ	R.U.C. nos. 321 (2), 333 (4)	6	
Augustus (Roman)	AR	'Head of emperor and seated deity'	1	
		Grand total	2,077	

found. Others I have not thought it necessary to mention here, either because they were not associated with any specific buildings or because the situations in which they were found had no bearing on their dates. All those, however, which are of interest are described in Vol. II, where their numbers are as follows:

Pottery. Ch. 23, nos. 51, 57, 58, 63, 65, 67, 68, 69, 99, 110, 111, 115, 133, 141, 150, 158, 159, 162, 187, 242, 245, 247, 250, 252–4, 267 and 271.

Terra-cottas. Ch. 24, nos. 50, 90, 93, 101, 111, 111, *a*, 114, 121, 136, 136, *a*, *b*, 147, 148, 164–72.

Stone Objects. Ch. 25, nos. 91, 111, 113, *c*, *d*, *e*, 116, 117, 140, *b*, *c*, 160 and 165.

Stucco Sculptures. Ch. 26, nos. 72–85.

Iron. Ch. 27, nos. 12, 46, 78, 88, 161, 175, 195, 202, 204, 205, 208 and 221.

Copper and Bronze. Ch. 28, nos. 214, 244, 285, 368, 401, 402, 415 and 430.

Gold and Silver Jewellery. Ch. 30, nos. 47 and 73.

Finger-rings. Ch. 31, nos. 22, 23, 38, 52, 61, 64, 65 and 69.

Bone and Ivory. Ch. 32, nos. 53 and 66

Shell. Ch. 33, nos. 15, 19, 23, 24, 26, 29, 31, 32, 33, 36, 37 and 45.

Glass. Ch. 35, nos. 16 and 19, *b*.

Stone Sculptures. Ch. 36, nos. 6, 15–17, 20–7, *a–d*, 28–30, 32–44, 47–54, 56–58, 60, 63–7, 70, 71, 73–5, 78–82, 84–91, 93, 95, 97–101, 103, 106–9, 111–12, 114–16, 118, 120–3, 125–32, 136–41, 145–53, 155–6, 158, 161–2, 164–75, 178–9, 181–7, 189–90, 192, 194–5, 198–9.

Coins. Ch. 38. Coins to the number of 2,077 were recovered from the Dharmarājikā site. More than half of these were contained in the three hoards described on pp. 239 and 282, the first containing 355 coins, the second 305, chiefly of debased Indo-Sasanian types, the third, 532, all with one exception of Vāsudeva. Others have also been noted in connexion with the buildings in which they were found. Including all these, the whole collection comprises 30 Local Taxilan, 35 Greek, 64 Śaka, 3 Parthian, 1,485 Kushān, 17 late imitation Kushān, 27 Kidāra Kushān, 97 Sasanian, 301 Indo-Sasanian, 5 White Hun, and 13 miscellaneous. The rulers, types and number of specimens are shown in the list above. In cases where the coins are described in the 'List of Rare and Unique Coins' (= R.U.C. ch. 39) or in the chapter on 'Coins' (ch. 38) I have avoided repetition by giving the appropriate references to them.

Beads. Beads to the number of 722 were found at the Dharmarājikā, of which 586 have already been described in connexion with the buildings in which they were unearthed. The remaining 136 specimens, which for the most part were scattered here and there in the debris, are detailed in the table following.

MISCELLANEOUS BEADS FROM THE DHARMARĀJIKĀ OTHER THAN THOSE DESCRIBED IN THE TEXT

Shape	Carnelian	Agate	Amethyst	Beryl	Chalcedony	Lapis-lazuli	Crystal quartz	Grey stone	Faience	Mother-of-pearl	Shell	Glass, colourless	Glass, blue	Glass, green	Glass, opaque yellow	Glass, red	Glass, opaque red	Glass, black	Total
Spherical	16	10	—	—	—	—	1	1	—	—	3	1	—	1	—	—	1	—	34
Oblate	5	—	—	—	1	—	—	—	—	—	8	2	—	1	—	—	—	—	17
Oval	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
Barrel	—	3	—	—	—	—	—	—	—	—	6	2	—	—	—	—	—	1	12
Barrel, hexagonal	—	—	1	—	—	—	1	—	—	—	1	—	—	—	—	—	—	—	3
Domical	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	1
Disk	—	—	—	—	—	—	—	—	—	2	6	—	—	—	3	—	—	—	11
Cylindrical	1	2	—	1	—	1	—	—	—	—	3	1	—	—	1	—	—	—	10
Bicone	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1
Bicone, convex double	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1
Cornerless cube	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1
Faceted	—	—	—	—	1	—	—	—	—	—	—	1	—	—	—	—	—	—	2
Tabular	1	1	—	—	—	—	—	—	—	—	4	—	—	—	—	—	—	—	6
Gadrooned	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1
Segmented	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	2
Spacers:																			
Double barrel	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1
Star	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1
Flat	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	2
Pendants and miscellaneous:																			
Bud	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1
Drop	—	—	—	—	—	1	1	—	—	—	1	—	—	—	—	—	—	—	3
Reel	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	1
Bird-shaped	—	1	—	—	—	—	—	—	—	—	1	—	—	1	—	—	—	—	3
Irregular and nondescript	—	—	—	—	—	1	—	—	—	—	14	2	—	1	—	—	—	—	18
Uncut shell	—	—	—	—	—	—	—	—	—	—	3	—	—	—	—	—	—	—	3
Total	23	18	1	1	2	3	4	1	1	2	57	11	1	4	4	1	1	1	136

Chapter 12. REPORT ON THE HUMAN REMAINS FROM THE DHARMARĀJIKĀ

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INTRODUCTION

THE HUMAN remains described in this report were excavated by Sir John Marshall in the Dharmarājikā Monastery at Taxila during the season 1930–1. According to Sir John Marshall the skeletons were probably of the monks or nuns killed by the White Huns when they sacked and burnt the monastery about the end of the fifth century A.D. It is not unlikely that the remains also comprise some of the bones of the White Huns themselves who died in the course of the fighting.

As will appear from the photographs of the skeletons (Pl. 66) taken *in situ*, there is ample evidence of this pillage and murder. The head in some cases is separated and lies at a considerable distance from the trunk, and the bones are scattered about, the bones of one skeleton not infrequently overlapping those of another. In Pl. 229 this has been made clear by differentiating the bones of the various skeletons after they have been thoroughly examined and assigned to each particular skeleton. In one of the skeletons there is clear evidence of calcination, showing that the bodies of some of the individuals murdered were partially burnt in the general conflagration set up by the invaders after the pillage.

The bones were originally of a pale fawn colour and of an extremely fragile nature. They were treated *in situ* with a solution of shellac dissolved in pure alcohol before removal, but this process had to be repeated several times in the laboratory before they became sufficiently strong to be handled for purposes of examination.

The number of individuals comprised in this collection is six, of which three were represented by complete bodies. In two, besides the skull and the mandible, only a few bones outside those of the extremities were found. One skeleton is represented solely by the mandible.

The skeletons were renumbered after the bones belonging to the different individuals had been identified and separated. The numbers given below, therefore, do not correspond to the numbers provisionally given in the field by the Archaeological Survey.

The measurements were taken according to the technique practised by the Martin's School in Zürich and Munich. The auricular height was measured along

a plane at right angles to the Frankfurt Horizontal by means of Davidson Black's new instrument fixed on Mollison's craniophore. In taking the biauricular breadth we have followed Mollison by measuring the shortest distance between the roots of the two zygomatic arches.

DESCRIPTION OF THE SKELETONS

Skeleton no. 1 (Pl. 227, figs. *a*, *b*, *c* and Text-figs. 1–3)

This skeleton was represented by a skull, a mandible, the left femur without the head, the right fibula, the left scapula and some ribs, near the trunk of skeleton no. 2. The skull was found lying with the vault downwards, and the greater part of the left temporal bone and the basis cranii were missing. The right temporal is not complete and the zygomatic arches are also absent. The facial portion has been pushed inwards and is somewhat warped. All the teeth have cut but the third molars could not have erupted much before, as the cusps show hardly any wearing. The sutures are all open and synostosis has not commenced anywhere.

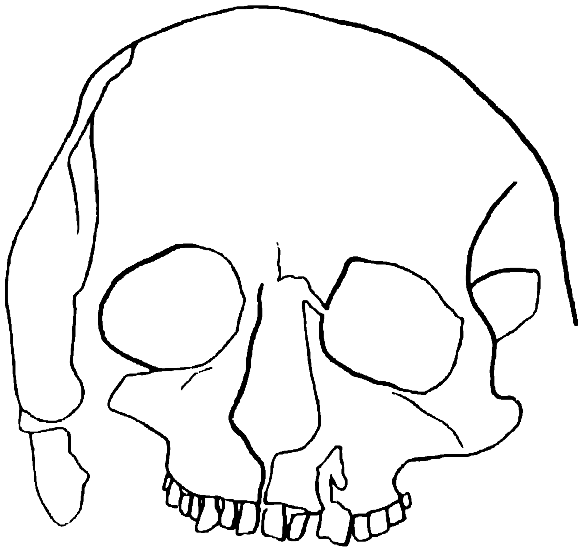
The glabella is marked and the supraorbital ridges are clearly differentiated from the superciliary arches. The frontal eminences are prominent and the forehead is inclined almost vertically. The nose appears to have been high pitched and narrow and the lower margins clearly marked off. The cheek bones are well developed and no protrusion of the face is noticeable. The occiput is well protruded behind, the mastoids well developed and the muscular attachments prominent.

From all considerations the individual to whom the skeleton belonged appears to have been a young adult male whose living stature, as reconstructed from the right fibula, was about 1,650 mm. or 5 ft. 6 in.

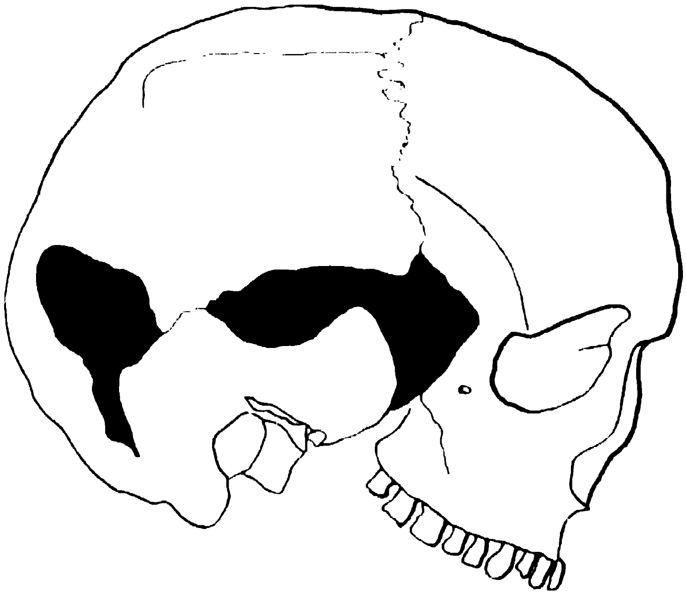
Skeleton no. 2 (Pl. 227, figs. *d*, *e*, *f* and Text-figs. 4–6)

This skeleton was represented by a complete body and lay next to skeleton no. 1, the broken shaft of its right femur lying about a foot below the skull of that number. The mandible was separated from the skull and was found at some distance from it. As reconstructed from the length of the left humerus, the living stature of the individual was approximately 1,580 mm. or 5 ft. 3·2 in.

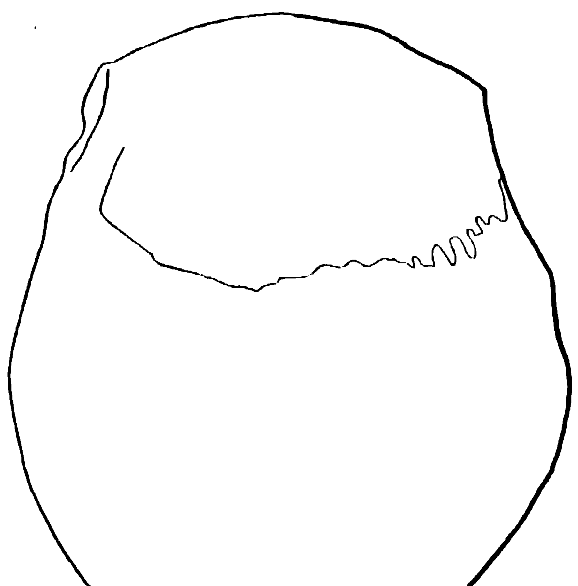
The skull was in a fairly good state of preservation but the basis cranii and the greater part of the face, including portions of the lower forehead, were missing. All the teeth have erupted and the cusps are badly worn, the dentine being freely exposed. The coronal and the lambdoid sutures are open but the posterior part of the sagittal suture has closed. The mastoids are well developed and the muscular attachments are strongly marked. The superciliary ridges appear to be clearly differentiated from the supraorbital arches. The frontal eminences are not noticeable and the forehead is inclined sharply. The occiput is well bulged. The skeleton without doubt was that of an adult male in the prime of life.



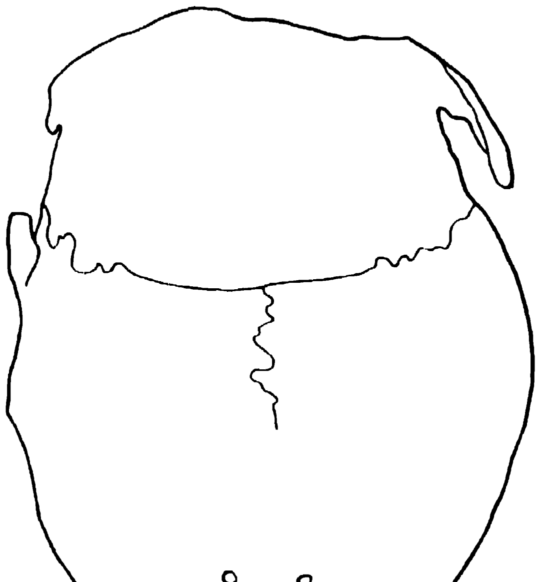
Text-fig. 1. Skull no. 1. Norma frontalis.



Text-fig. 2. Skull no. 1. Norma lateralis.

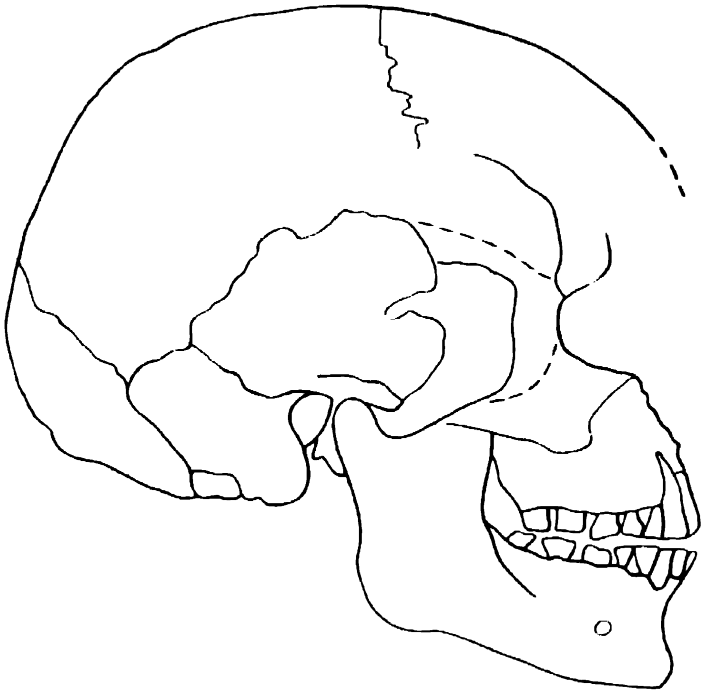


Text-fig. 3. Skull no. 1. Norma verticalis.

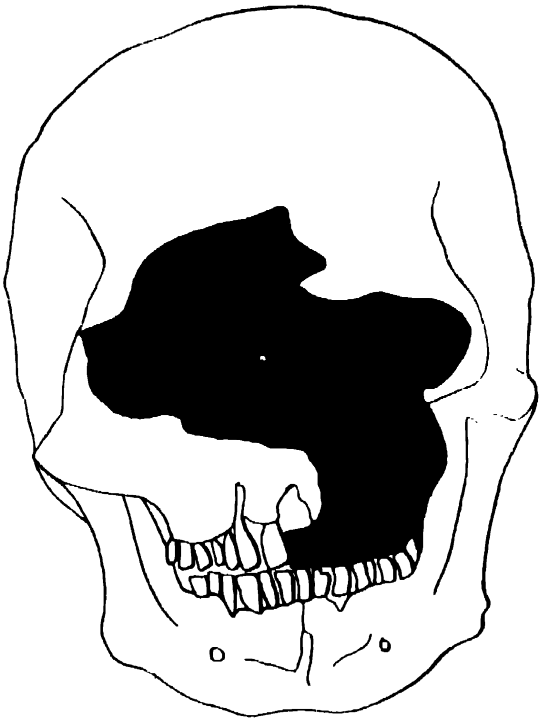


Text-fig. 4. Skull no. 2. Norma verticalis.

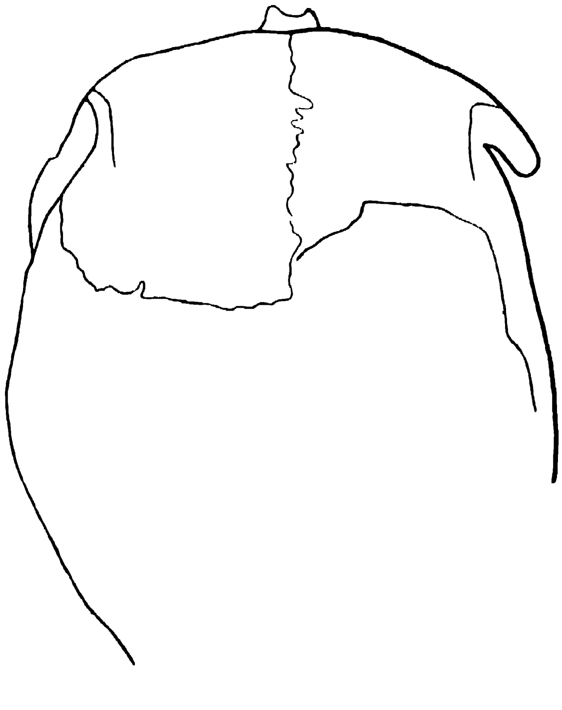
Dioptrographic tracings of skulls from the Dharmarājikā. Half actual size.



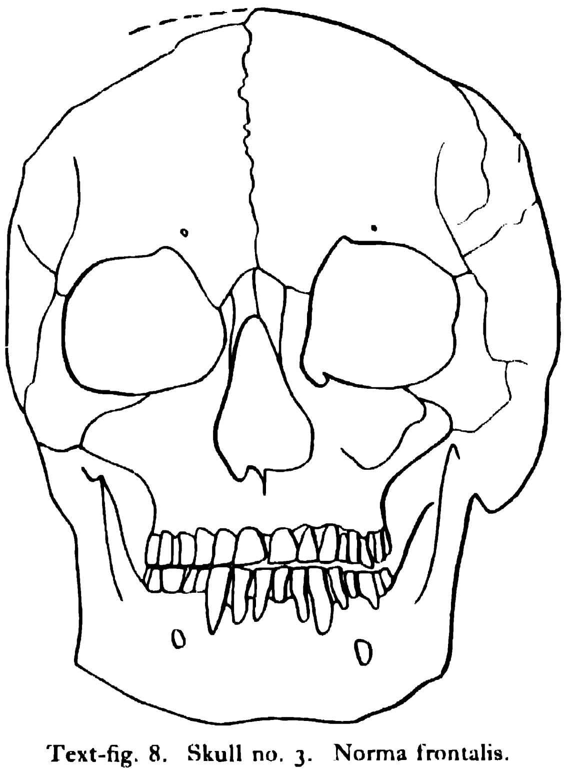
Text-fig. 5. Skull no. 2. Norma lateralis.



Text-fig. 6. Skull no. 2. Norma frontalis.



Text-fig. 7. Skull no. 3. Norma verticalis.



Text-fig. 8. Skull no. 3. Norma frontalis.

Dioptrographic tracings of skulls from the Dharmarājikā. Half actual size.

Skeleton no. 3 (Pl. 227, figs. *g*, *h*, *i* and Text-figs. 7–9)

This is also represented by the complete body, which lay next to skeleton no. 2. The head was severed from the body and was found at some distance from it. Most of the other bones were also scattered about, showing that the bodies were unquestionably disturbed after death. As reconstructed from the height of the left humerus, the living height of the individual was approximately 1,647 mm. or about 5 ft. 6 in.

The skull was found with the lower jaw attached to it. The f·ontal and the facial portions of the skull along with the basis cranii were found in an excellent state of preservation but the posterior and occipital parts were broken. All the teeth have erupted and show considerable attrition, the dentine being freely exposed in many. The mastoids are powerful and the muscular attachments very strongly marked. The glabella is prominent and the superciliary ridges are well differentiated from the supraorbital arches. The metopic suture is present from the nasion to the bregma. There is no sign of synostosis in the coronal, sagittal and lambdoid sutures, as far as they can be traced. The nose is thin and very highly pitched, and the lower margins are clearly marked off. The cheek bones are powerful and the face orthognathous. The skeleton belonged undoubtedly to an adult male.

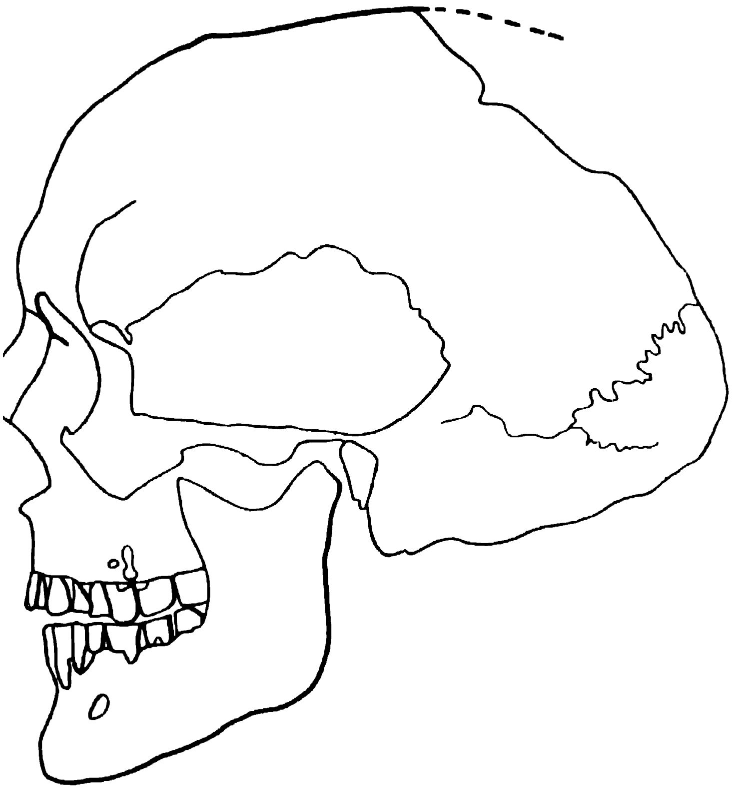
Skeleton no. 4 (Pl. 229)

This is represented solely by the lower jaw, which was found lying between the broken fragments of the left Os Innominatum and the right scapula of skeleton no. 3. The mandible is in an excellent state of preservation and belonged to an individual who has just cut the third molars. The cusps in the other teeth are moderately worn down. The attachments for the Masseter muscle are strongly marked and the mental point is well developed. The skull appears to be that of a young adult male.

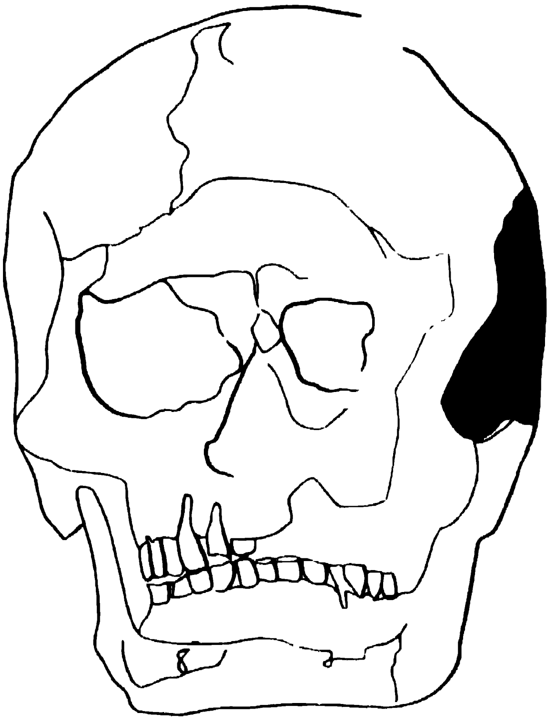
Skeleton no. 5 (Pl. 228, figs. *a*, *b*, *c*, *d* and Text-figs. 10–13)

This is represented by the whole body and was found lying on its back with the face upwards and the lower extremities partially flexed (Text-fig. 13). The posterior half of the skull is in excellent condition but the frontal part is badly crushed as a result of a severe blow on the forehead with a blunt instrument, which had doubtless caused its death. The consequence of this injury was not only to fracture the frontal bone and push it upwards at the bregma but to drive inwards the entire left half of the face, which was very seriously damaged and was rendered useless for any measurements to be taken. From the right orbit extending over the greater part of the parietal bone there is a large area of charred mark caused no doubt in the general conflagration of the monastery.

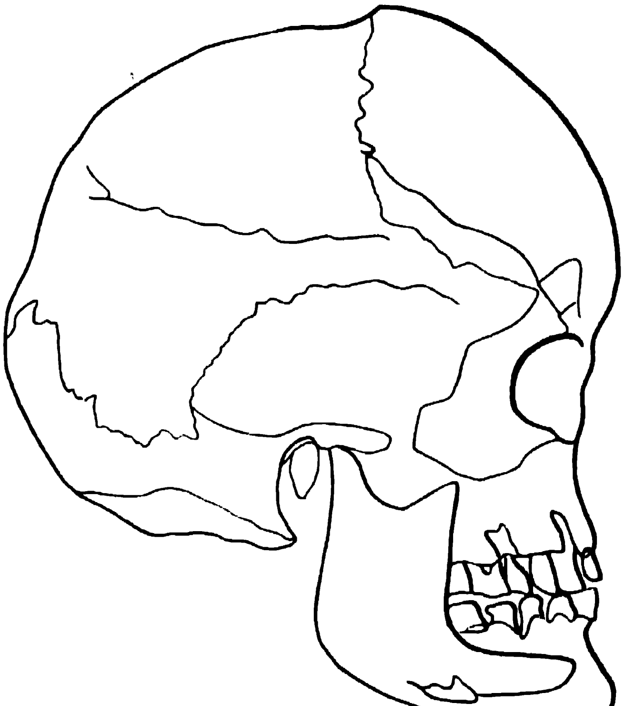
From the length of the right humerus the living height of the individual appeared to have been about 1,569 mm. or 5 ft. 3 in. The lower jaw, which was found attached to the skull, showed that the last molars had not erupted but the cusps of the rest



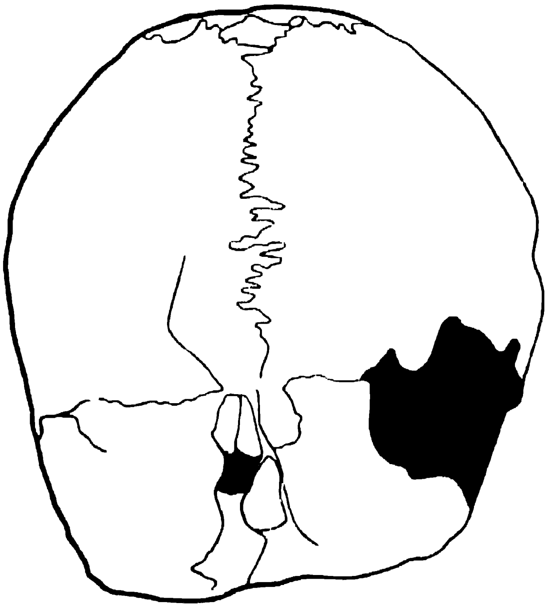
Text-fig. 9. Skull no. 3. Norma lateralis.



Text-fig. 10. Skull no. 5. Norma frontalis.



Text-fig. 11. Skull no. 5. Norma lateralis.



Text-fig. 12. Skull no. 5. Norma verticalis.

Dioptrographic tracings of skulls from the Dharmarājikā. Half actual size.

of the teeth were badly worn down, freely exposing the dentine. The sutures on the skull are well serrated and do not show any sign of synostosis. The mastoids are moderate but the muscular attachments are prominent and well marked.

The skeleton appears to be that of a young male.

Skeleton no. 6 (Pl. 228, figs. *e, f*)

This skeleton was represented by a skull with the mandible, some of the long bones and broken portions of a few other bones. From Text-fig. 14 it will be seen that the body was disturbed afterwards. From the lengths of the left femur and tibia the living height of the individual appears to have been about 1,645 mm. or 5 ft. 6 in. The lower jaw was found in an excellent condition with the last molars not yet erupted.

In the upper jaw, however, the third molars had just been cut. The rest of the teeth are extremely worn down and the dentine is freely exposed. As far as can be judged, synostosis had not started ectocranially in any of the sutures. The glabella is well marked and the superciliary ridges are clearly differentiated from the supraorbital arches. The nose appears to have been very high pitched and narrow and the lower margins well marked off. The mastoids are small and muscular attachments are moderately developed. The attachments of the Masseter muscle on the lower jaw, however, are well marked and the mental protuberance prominent. The cranial bones are thick and heavy. Taking everything into consideration the skeleton appears to have been that of a young male rather than that of a female.

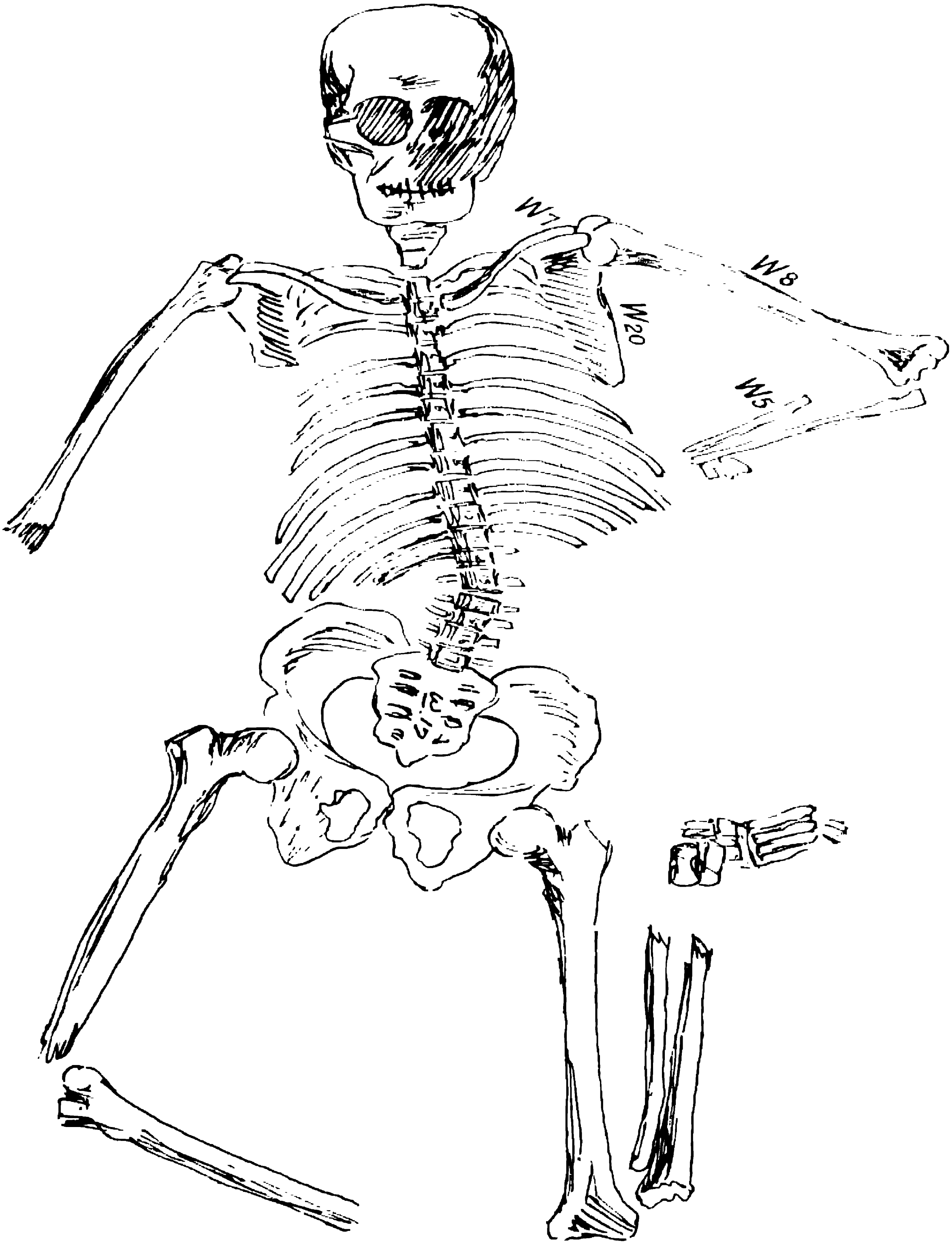
General characteristics of the skulls

From the foregoing accounts it will be seen that the remains are extremely fragmentary and the bones in most cases badly broken. Of the five skulls unearthed not one is complete and in none could all the measurements be taken. Nevertheless, some important data regarding dimensions and shape are still obtainable from these skulls, and the mandibles in all but one case are in perfect states of preservation. The skeletons, however, are too few in number and in far too incomplete a condition to give us a satisfactory picture of the racial characteristics of the persons to whom they belonged.

Four of the six skeletons discovered are undoubtedly of adult males and two of young men below the age of twenty-four. Of the adult skeletons, as mentioned before, one is represented only by the lower jaw.

Cranial characters

In Tables I–VI are given the detailed measurements with the various indices, from which it will be observed that the mean cranial length of the three adult male skulls is 189·3 mm., the mean cranial breadth 142·7 mm. and the percentage of proportions between the two is 75·36. The vault of the skull is moderately low, as shown by the mean auricular height of skulls 2 and 3, which is 118·5. The cranial capacity is very high, the mean of the last two skulls being 1552·12 c.c. Though no



Text-fig. 13. Skeleton no. 5 (1 : 6).

direct measurement was possible owing to the broken nature of the skulls, the cubic capacity obtained by calculation from the Lee-Pearson general formula may be considered a very fair approximation.

The forehead is moderately broad, the mean least frontal breadth of the three adult skulls is 96 mm., and the greatest frontal breadth 113·5 mm., the difference between the two being 17·5. The mean value of the maximum horizontal circumference of the three skulls is 530·5 mm., for the sagittal arc 376, and for the transverse cranial arc 315 mm.

To sum up, the owners of these skulls had very large heads with low vaults. That they were long-headed admits of no doubt, judging both from the shape of the occipital region, which is quite bulging, and the maximum length, though, absolutely speaking, the breadth is fairly high.

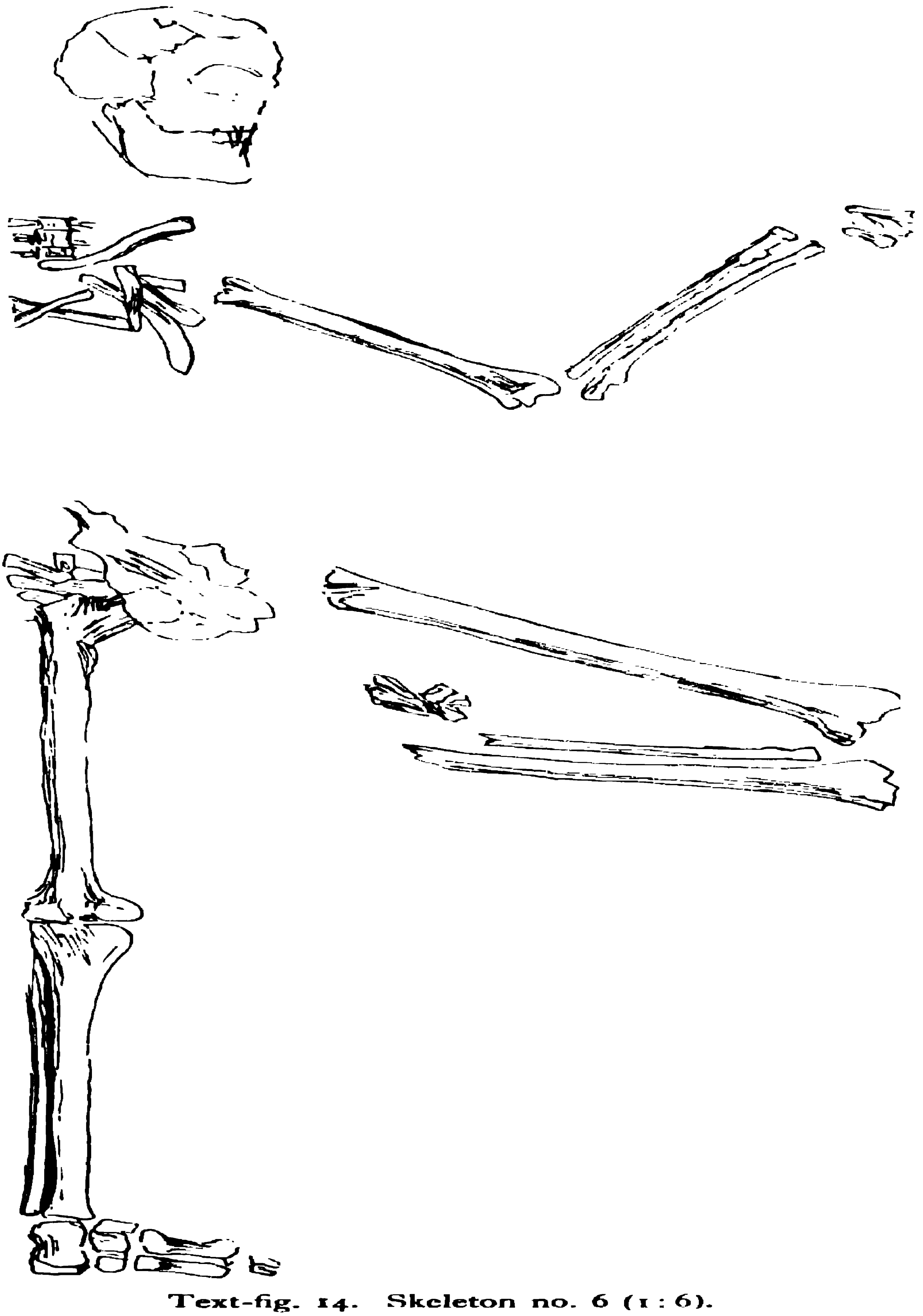
Of the two young skulls, the vault of the one is broken, making it impossible to measure its dimensions, but judging from the shape and conformation, skeleton no. 6 may safely be assigned to the type represented by the three adult skeletons. In skull no. 5, on the other hand, it was possible to take some measurements. As, however, the left half of the forehead was damaged and the glabellar region somewhat pushed in, the maximum cranial length was obtained from a line drawn from the unbroken part of the forehead. The cranial length thus measured was found to be 174 mm. and the breadth 142 mm., giving a cephalic index of 81·61. Even if it be assumed that the maximum cranial length measured fell short of the true value with the consequent lowering of the index, the conformation of the skull with its nearly flattened occiput leaves no room for doubt that the skull is essentially of the brachycranial type. Its vault is also very high, the auricular height being as much as 125 mm., strongly suggesting that it belonged to a different racial type from the rest of the remains.

Facial characters

Owing to the zygomatic arches being broken the maximum breadth between them could not be measured, but the mean value of the bimaxillary breadth of skulls 1 and 3 was found to be 98 mm., showing that the cheek bones were broad and the masticatory muscles well developed. The height of the upper part of the face is 68 in skull 1 and as much as 79 in skull no. 3. The width of the lower part of the face, as measured between the two gonia, is 100·6 for the three adult male skulls. The height of the chin measured at the symphysis for the three adult skulls is 35 mm. In skull no. 4, however, which is represented only by the mandible, the symphyseal height is as high as 38 mm.

The total length of the face in skull no. 3, in which alone this measurement was taken, was 129 mm., showing that, though possessing well-developed cheek bones, the face was very long.

The nose was high pitched and very long and narrow. The mean nasal length of skulls nos. 1 and 3 is 55 mm. and the mean nasal breadth only 21·5 mm., giving a value of 43·73 for the mean nasal index.



Text-fig. 14. Skeleton no. 6 (1 : 6).

Table I. MEASUREMENTS OF THE TAXILA SKULLS (mm.)

	Skull no. 1	Skull no. 2	Skull no. 3	Mean of nos. 1, 2 and 3	Skull no. 5	Skull no. 6	Mean of nos. 5 and 6	Skeleton (mandibl only)
1. Max. cranial length	185	192(?)	191(?)	189·3(?)	174(?)	—	174(?)	—
2. Max. cranial breadth	140(?)	139	149	142·7(?)	142(?)	—	142	—
3. Cranial height:								
(*a*) Auricular height	—	118	119	118·5	125	—	125	—
(*b*) Basilobregmatic height	—	—	130	130	140	—	140	—
4. Least frontal breadth	98	93	97	96	—	—	—	—
5. Greatest frontal breadth	113(?)	114	—	113·5(?)	—	—	—	—
6. Bimastoid breadth	—	100	109	104·5	104	—	104	—
7. Bizygomatic breadth	—	—	—	—	—	—	—	—
8. Orbito-nasal breadth	96	—	104	100	—	—	—	—
9. Nasal length	51	—	59	55	—	50	50	—
10. Nasal breadth	23	—	25	24	—	24	24	—
11. Inter-orbital breadth	21	—	22	21·5	—	—	—	—
12. Orbital breadth (right)	41	—	44	42·5	—	—	—	—
Orbital breadth (left)	41	—	45	43	—	—	—	—
13. Orbital height (right)	35	—	41	38	—	—	—	—
Orbital height (left)	35	—	42	38·5	—	—	—	—
14. Nasion prosthion line	68	—	79	73·5	69	70	69·5	—
15. Nasion basion line	—	—	103	103	85	—	85	—
16. Prosthion basion line	—	—	92	92	72	—	72	—
17. Nasion gnathion line	—	—	129	129	113	—	113	—
18. Max. alveolar breadth	63	—	62	62·5	—	64	64	—
19. Max. alveolar length	53	—	56	54·5	—	55	55	—
20. Palatal length	43	—	49	46	—	—	—	—
21. Palatal breadth	37	—	46	41·5	—	—	—	—
22. Occipital foramen:								
(*a*) Length	—	—	40	40	36	—	36	—
(*b*) Breadth	—	—	31	31	30	—	30	—
23. Bi-auricular breadth	—	126	129	127·5	127	—	127	—
24. Outer bi-orbital breadth	101	107	110	106	—	—	—	—
25. Inner bi-orbital breadth	96	101	104	100·3	—	—	—	—
26. Bimaxillary breadth	96	—	100	98	—	102	102	—
27. Greatest occipital breadth	—	109	122(?)	115·5	120	—	120	—
28. Sagittal cranial arc	376	—	—	376	—	—	—	—
29. Trans. cranial arc	—	315	—	315	335	—	335	—
30. Orbito-nasal arc	106	—	120	113	—	—	—	—
31. Frontal arc	132	—	104(?)	128(?)	—	—	—	—
32. Parietal arc	134	125	—	129·5	—	—	—	—
33. Occipital arc	110	128	—	119	—	—	—	—
34. Horizontal circumference (max.)	528	533	—	530·5	—	—	—	—
35. Frontal chord (*na–b*)	112	—	111(?)	111·5(?)	—	—	—	—
36. Parietal chord	119	112	—	115·5	116	—	116	—
37. Occipital chord	93	102	—	97·5	98	—	98	—

The mandible

38. Bigonial breadth	95	104	103	100·7	100	106	103	105
39. Height of the ramus	57	71	70(?)	66(?)	68	67	67·5	71
40. Breadth of the ramus								
(a) Maximum	39	44	—	41·5	—	47	47	49
(b) Minimum	30	33	33	32	35	35	35	32
41. Symphyseal height	34	33	36	34·3	34	35	34·5	38
42. Mandibular length	75	76	83	78	—	77	77	73
43. Mandibular angle	128°	114°	117°	119·7°	118°(?)	122°	120°	126°
44. Bicondylar breadth	127	127	—	127	114(?)	128	121	125
45. Height of the body of the mandible:								
(a) Right side	27	32	33	30·7	33	30	31·5	34
(b) Left side	28	33	34	31·7	32	30	31	34

Teeth

46. Upper jaw:								
Right side, Ant.-post. diam., 1st molar	10	—	9	9·5	10	10	10	—
Right side, Ant.-post. diam., 2nd molar	10	10	8	12·7	9	10	9·5	—
Right side, Ant.-post. diam., 3rd molar	7	8	8	7·7	—	—	—	—
Right side, Breadth, 1st molar	10	11	11	10·7	11	10	10·5	—
Right side, Breadth, 2nd molar	9	11	10	10	12	10	11	—
Right side, Breadth, 3rd molar	9	10	10	9·7	—	—	—	—
Left side, Ant.-post. diam., 1st molar	10	—	9	9·5	—	10	10	—
Left side, Ant.-post. diam., 2nd molar	9	—	9	9	—	—	—	—
Left side, Ant.-post. diam., 3rd molar	9	—	7	8	—	—	—	—
Left side, Breadth, 1st molar	10	—	11	10·5	—	11	11	—
Left side, Breadth, 2nd molar	10	—	9	9·5	—	—	—	—
Left side, Breadth, 3rd molar	10	—	9	9·5	—	—	—	—
47. Lower jaw:								
Right side, Ant.-post. diam., 1st molar	10	10	11	10·3	10	10	10	11
Right side, Ant.-post. diam., 2nd molar	10	10	8	9·3	11	11	11	10
Right side, Ant.-post. diam., 3rd molar	8	10	8	8·7	—	—	—	10
Right side, Breadth, 1st molar	10	11	11	10·7	11	11	11	10
Right side, Breadth, 2nd molar	9	10	9	9·3	12	11	11·5	9
Right side, Breadth, 3rd molar	8	10	8	8·7	—	—	—	8
Left side, Ant.-post. diam., 1st molar	11	—	11	11	10	10	10	11
Left side, Ant.-post. diam., 2nd molar	10	—	9	9·5	11	11	11	11
Left side, Ant.-post. diam., 3rd molar	8	10	9	9	—	—	—	10
Left side, Breadth, 1st molar	10	11	11	10·7	11	11	11	11
Left side, Breadth, 2nd molar	9	10	10	9·7	11	10	10·5	8
Left side, Breadth, 3rd molar	9	9	9	9	—	—	—	8

TABLE II. INDICES OF THE TAXILA SKULLS (mm.)

	Skull no. 1	Skull no. 2	Skull no. 3	Mean of nos. 1, 2 and 3	Skull no. 5	Skull no. 6	Mean of nos. 5 and 6	Skeleton 4 (mandible only)
1. Length-breadth index	75·68(?)	72·4	78·01(?)	75·36(?)	81·61(?)	—	81·61(?)	—
2. Length-height index	—	61·46	62·3(?)	61·88(?)	71·84(?)	—	71·84(?)	—
3. Breadth-height index	—	84·89	79·87	82·38(?)	88·03	—	88·03	—
4. Trans. cranial curvature index	—	40	—	40	37·91	—	37·91	—
5. Trans. fronto-parietal index	70	66·91	65·1	67·34(?)	—	—	—	—
6. Index of the occipital foramen	—	—	77·5	77·5	83·33	—	83·33	—
7. Orbital index (right)	85·37	—	93·18	89·28	—	—	—	—
Orbital index (left)	85·37	—	93·33	89·35	—	—	—	—
8. Nasal index	45·1(?)	—	42·37	43·73(?)	—	48	48	—
9. Maxillo-alveolar index	118·87	—	110·71	114·79	—	116·36	116·36	—
10. Palatal index	86·05	—	93·88	89·97	—	—	—	—
11. Mandibular index	59·06	59·84	—	59·45	—	60·16	60·16	58·4
12. Ramus index	52·63	46·48	47·14(?)	48·75(?)	51·47	52·24	51·86	45·07
13. Longitudinal cranio-facial index	—	—	48·17	48·17(?)	41·38	—	41·38	—

TABLE III. MEASUREMENTS ON CRANIOGRAMS (mm.)

	Skull no. 1	Skull no. 3	Skull no. 5
1. Nasion inion line	154·5	176	151
2. Nasion to foot of meatal perpendicular	—	115	—
3. Nasion to foot of bregma perpendicular	47	49	41·5
4. Calvarial height	109	—	109
5. Auditory meatus position index	—	65·34	—
6. Bregma position index	30·42	27·07	27·48
7. Facial profile angle	70°	89·5°	93°
8. Frontal inclination angle	67°	63°	75°
9. Occipital inclination angle	90°	—	83°
10. Calvarial base angle	10°	15·5°	15°
11. Calvarial height index	70·55	—	72·19
12. Basilo-bregmatic height	—	131	138
13. Nasion lambda line	171	—	159
14. Basion lambda line	—	—	119
15. Nasion lambda arc	267	—	259
16. Nasion inion arc	335	—	333
17. Nasion opisthion arc	371	—	375

TABLE IV. RECONSTRUCTION OF STATURE FROM THE LONG BONES OF TAXILA

Skeleton no.	Bone	Length (mm.)	Stature after Lee-Pearson (mm.)	Stature after Manouvrier (mm.)
1	Right fibula	354	—	1,650
2	Left humerus	302	1,580	—
3	Left humerus	325	1,647	—
5	Right humerus	298	1,569	—
6	Left femur	425	1,647	—
6	Left tibia	360	1,642	—

TABLE V. CRANIAL CAPACITIES OF THE TAXILA SKULLS
(after Lee-Pearson)

	Cranial capacity (c.c.)	Average (c.c.)
Skull no. 2	1508·79	1552·12(?)
Skull no. 3	1595·46(?)	
Skull no. 5	1441·29(?)	—

TABLE VI. FACIAL MEASUREMENTS OF THE TAXILA SKULLS
Measurements showing the projection of the cheek in an antero-posterior plane

	A	B	C	D	E	F
Skull no. 3	82	75	78	73·5	42	17

A = The radial distance of the anterior end of the fronto-molar suture from the transmeatal axis.
B = The same from the midpoint on the lateral margin of the orbit.
C = The same from a point on the lower margin of the orbit crossed by the malo-maxillary suture.
D = The same from the malo-maxillary point.
E = The distance between the malo-maxillary point to the nearest point on the lower margin of the orbit.
F = The distance from the lower malo-maxillary point to the anterior fronto-malar point.

Facial measurements in an antero-posterior plane

	A	B	C	D	E	F	G	H	J	K	L
Skull no. 3	71	73	113	109	101	107	110	107·5	104	103	108

A = Projection of lateral orbital margin in front of midauricular plane.
B = Projection of malo-maxillary point.
C = Projection of the most advanced point of the nasal bones from transauricular axis.
D = Projection of ascending nasal process of maxilla.
E = Projection of lateral nasal margin.
F = Projection of nasion.
G = Pre-auricular length.
H = Projection of subnasal point.
J = Projection of upper alveolar point.
K = Projection of lower alveolar point.
L = Projection of mental point.

The palate is broad, the mean palatal index for skulls nos. 1 and 3 being 89·97.

In short, the people represented by these skulls were long-faced with broad cheek bones, and very strong, high chins; and they possessed high-pitched, long, narrow noses.

In the younger skulls, no measurements of the facial parts could be taken in the case of no. 5, which is badly crushed, but the mandible of skeleton no. 6 shows that it is very broad between the two gonia with a maximum width of 106 mm., the chin being powerfully developed with 35 mm. as the symphyseal height. As far as can be judged, therefore, from the mandible, the lower part of the face of skeleton

no. 6, like the cranium, in shape as well as in proportions, is similar to that of the adult skulls.

Facial projections

In our previous accounts of the human remains from other parts of India, we have compared the projections of the facial parts of the skulls from the transauricular axis drawn at right angles to the Frankfurt Plane, according to the scheme described by Sir Arthur Keith.[1] Owing, unfortunately, to the broken nature of the skulls of the present collection, in one of them only (no. 3) could the facial projections be measured. In Table VI the values of these measurements are given. The pre-auricular length which is given in column G was found to be 110 against 107 as the projection of the nasion (column F) from the transmeatal axis, the glabella thus projecting only 3 mm. from the root of the nose. In other words, while the glabella is prominent and the superciliary ridges are well marked, there is none of that massing of bones between the eyebrows with a deep sub-glabellar notch, so characteristic of the Neanderthaloid and Australoid races. In group B of the Naga skulls recovered by the Triangular Expedition and in the male Tasmanian skulls measured from the Dioptrographic tracings given by Berry and Robertson,[2] the glabella was found to project 6·5 and 6·7 mm., respectively, beyond the nasion.

In column A is given the projection of the lateral orbital margin, and in column C the projection of the most advanced point of the nasal bones. The values of these two characters are 71 and 113 mm. respectively. That is, the tip of the nose projects 42 mm. in front of the lateral wall of the orbit, which shows the great prominence of the nasal bones.

The projection of the cheek bones can be best studied from the position of the lower malo-maxillary point, which is 73 mm. from the transmeatal axis. The projection of the lateral nasal margin from the same plane is 101 mm., the difference between the two being 27 mm., which clearly indicates that there is no retrocession of the lateral nasal walls.

The projection of the cheek bones can also be determined by measuring the forward growth of the zygomatic arches. The figures for this are also given in Table VI, which show that neither in the advance of the 'masseteric' point nor in the depth of the zygomatic bone is there any indication of the forward development of the cheek bones characteristic of the Mongolian races.

The projection of the upper and the lower alveolar regions beyond the nasion, when the skull is oriented in the Frankfurt Plane, is commonly known as prognathism. The figures given in columns J and K in Table VI show that there is no projection either of the alveolar or subalveolar regions beyond the nasal root. The chin, as judged from the figure in column L, projects but 1 mm. beyond the nasion. We may regard the face, therefore, as completely orthognathous.

[1] 'Report on the Human Remains' in *Ur Excavations*, vol. 1, Al-Ubaid (ed. by H. R. Hall and C. L. Woolley), pp. 231–4. Oxford, 1927.

[2] B. S. Guha and P. C. Basu, 'Anthropological Bulletin', *Z.S.I.* no. 1, p. 66. Calcutta, 1931.

In sum, as the values of the facial projections indicate, the Taxila monks had well-developed supraorbital regions without showing any Neanderthaloid characters. They had a high-pitched nose and well-developed cheek bones but they were not so forwardly pushed as in the typical Mongoloid faces. Lastly there was no indication of prognathism.

Teeth

The condition of the teeth of the Taxila monks was very poor. The chewing surface was thoroughly worn down and the dentine freely exposed. This was probably due to the mixing of dirt in the food, as was pointed out by Keith and was noticed also in the ancient Indus valley skulls.

In Table I (p. 307) are given the anterio-posterior and transverse diameters of the molar teeth of both the jaws. It is probable, however, that the figures given in most cases are somewhat less than their actual size, before the process of attrition had affected them.

Racial affinities

From the comparative account of the skeletons given above it is clear that the majority of the remains are of a short- to medium-statured people, with large brain, long head and face and a prominent narrow nose. There is one skull, however, which reveals an altogether different type. It belonged to an essentially brachycephalic race with a high cranial vault. Owing to the damaged condition of the bones we are unable to form a complete picture of its face, but there seems to be no doubt that, like the previous ones, the nose was long and prominent but the face was of a short squarish type.

In trying to determine the racial affinities of these remains we are handicapped by the absence of any skeletons from the immediate neighbourhood of approximately the same age. But the human skeletons of the Chalcolithic Age unearthed in the lower Indus Valley and those of about the same time from Al-Ubaid described by Sir Arthur Keith are available for comparison. In addition, there are two small series of Pathān and Afghān crania in the collections of the Berliner Gesellschaft für Anthropologie, Ethnologie und Urgeschichte and the École d'Anthropologie de Paris, which it was possible for one of us (B.G.) to measure in Europe during 1935 through the courtesy of the Directors of those Institutions.

Among the ancient people of the Indus valley, the Taxila remains are comparable only to what has been designated as the Mohenjo-daro I type.[1] These comprise three adult males' skulls in the first lot of human remains unearthed at Mohenjo-daro, skull no. 28 found there subsequently by Dr J. H. Mackay, and the two male adult skulls from Open Burials at Harappā. Compared to the first the maximum cranial length is less among the main Taxila group, the respective figures being 192·25 and 189·3 mm. In M 28,[2] the cranial length is also 196 mm., but in the

[1] Sewell and Guha, 'Human Remains' in *M.I.C.* (ed. by Sir John Marshall), vol. II, pp. 599–648. London, 1931.

[2] Guha and Basu, 'Human Remains' in *Excavations in Mohenjo-daro during 1927–8*.

Open Burial Harappā skulls it is slightly less, namely, 190·5 mm. In the Al-Ubaid skulls described by Keith[1] the mean value of the maximum cranial length is greater among the latter, the mean value for it being 142·7 against 132·5 mm. of Mohenjo-daro I, 134 mm. of M28, 138·5 mm. of the Harappā Open Burials, and 140·1 mm. of the Al-Ubaid skulls. The ratio between the length and the breadth in the Taxila crania is 75·36 against 68·24, 69·78, 72·07 and 72·6 mm., respectively, in the other series.

There is also another trait which distinguishes the Taxila skulls from these other series. Attention has been drawn to the great postauricular development of the Mohenjo-daro I skulls.[2] M28 and the Open Burial Harappā skulls share the same characteristic, though not to such a marked degree. Keith[3] has noticed a similar feature in the ancient Sumerian skulls from Al-Ubaid. In all of these very long-headed ancient crania the occipital portions are pushed farthest backwards, and the position of the external auditory meatus is very near the centre of the skull, or even actually anterior to it, as in Mohenjo-daro I skulls. In the Taxila remains, on the other hand, the pre-auricular portion lies well behind the centre of the cranium. The mean value of the meatal position index in the Mohenjo-daro I skulls is 48·1 against 65·14 in the Taxila skulls. In other words, while the pre-auricular portion is only 48·1 of the entire cranium in Mohenjo-daro I, it forms as much as 65·14 of the Taxila skulls.

As regards the face—compared with the majority of the old Indus valley remains it seems to be much longer in the Taxila remains. The greatest distance between the nasion and the gnathion is 129 mm. in the latter, against 113 mm. in the Mohenjo-daro I, and 118·1 mm. in the Al-Ubaid skulls. In M28, however, the face is very long—the maximum length being 130 mm. In the Open Burial Harappā skulls also a similar feature is observed. In the Taxila skulls the nose, again, is much finer and longer as compared with these skulls. The mean nasal index in the former is 43·73 against 51·06 in Mohenjo-daro I, 47·1 in the Harappā Open Burials and 47·59 in the Al-Ubaid. In M28, however, the shape and size of the nose is similar to that of the Taxila skulls, the nasal index being 43·64.

To sum up, the Taxila skulls are somewhat shorter and much broader than the ancient skulls from the Indus valley and Al-Ubaid, and do not possess the remarkable postauricular growth seen in the latter skulls. The face is longer and the nose finer and more prominent than in the majority of these skulls, but the skull numbered M28 found by Mackay, also at Mohenjo-daro, shares these features of the Taxila skulls.

When we turn to the modern neighbours of the Taxila monks, the two Pathān adult male skulls examined in Berlin are mentioned in the *Catalogue* of the Berliner Gesellschaft für Anthropologie prepared by Dr Otto Schlaginhaufen, now Professor of Anthropology in Zürich, as having been procured from Peshāwar in 1851. The mean cranial length and breadth of the two are respectively 180 and

[1] *Ur Excavations*, vol. I, pp. 214–40.
[2] *M.I.C.* II, pp. 607, 639.
[3] *Loc. cit.* p. 232.

126·5 mm., and the cranial index 70·56. The mean basilobregmatic height is 132 mm. The mean nasal height and breadth are 50 and 26 mm., and the nasal index 52·0. Compared, therefore, with the Taxila crania, the Pathāns have a similar but longer head with a slightly higher vault, and the nose is shorter and considerably broader.

The three Afghān skulls in the collection of the École d'Anthropologie de Paris are also of adult males. They were presented by Dr Hacks, but beyond the fact that they came from Kābul we know nothing about them. In length, these skulls are shorter than the Taxila ones, the mean maximum cranial length being 10 units less than that of the latter. The cranial breadth is also lower, the mean for the three being 136·0 mm. only, though the proportions between the length and breadth are about the same in both. The vault of the head, on the other hand, is much higher in the Afghān skulls, the mean basilobregmatic height being 138·0 against 130 mm. of the latter. As contrasted with the Taxila skulls, the nose among the Afghāns, though long and prominent, is relatively much broader, the mean nasal index being 49·06 against 43·37 of the latter. In short, the Afghāns have a much smaller cranium with a somewhat vertically inclined occiput and a loftier vault, and they also have a broader though prominent nose. In these respects they appear to approach some of the Central Asiatic tribes and are essentially of a different type from the ancient inhabitants of the Indus valley and the monks living in the monastery at Taxila in the fifth century of the Christian era.

Skeleton no. 5, mentioned previously as being unlike the other Taxila remains, discloses, on the other hand, a type not far removed from that of the Afghān. In the shape of the occiput and the lofty vault of the cranium both are very similar. Its closest resemblance, however, appears to be with the Tadjik and some of the skulls belonging to old cemeteries in the Tarīm basin brought back by Sir Aurel Stein from his third expedition in Central Asia during 1913–15.

In the collections of the École d'Anthropologie de Paris there are six Tadjik skulls brought by Ujfalvy from Kashgar, of which three are of adult males. The mean cranial length of these three skulls was found to be 181·7 mm., the cranial breadth 149·3 mm. and the cranial index 81·87. The basilobregmatic height is 136·3 mm., and the occipital region in all three is flattened. Except that skeleton no. 5 is somewhat smaller, that the occiput is slightly domed and not altogether flattened, and that the muscular processes are not so pronounced, owing probably to its youthful age, the skulls seem to be essentially of the same racial type, judged either by the shape or proportions of the skull.

The skulls brought back by Sir Aurel Stein[1] come from the eastern borders of the Taklamakan desert. One of them was from an ancient cemetery at Yingpān about 160 miles south of Turfān, which was abandoned in the fourth to fifth centuries A.D., and two, dating approximately from the second to third centuries A.D., came from another cemetery farther to the south-east and near Loulan. The latter,

[1] Sir Arthur Keith, 'Human Skulls from Ancient Cemeteries in the Tarim basin', *J.A.I.* LIX (1929), pp. 149–80.

according to Sir Arthur, were of an intermediate type but the Yingpān skull is of the same race as the Taxila and the Tadjik skulls. It is an enormous skull, having a cubic capacity of 1,575 c.c., and, though it gives a mesocranial index (78), the vertical contour to its occiput places it essentially in the brachycephalic class.[1] Its high conical dome is likened by Sir Arthur to that of the Osmanli Turks.[2]

There are two other adult male skulls in the collections of the Royal College of Surgeons in London brought by Dr Bellew from an ancient cemetery at Yangī Hissar at the western end of the Tarīm basin between Kashgar and Yarkand.[3] One of these skulls has a mesocranial index and the other is highly brachy, but both of them are characterised by the same lofty dome and occipital flattening. In actual size and proportions slight differences are doubtless to be found in these skulls, some being more typical than others, but in the fundamental shape and formation, skull no. 5 from Taxila, the Yingpān and the Yangī Hissar skulls conform to the same racial type, which is characteristic of the present-day Tadjiks from Central Asia and Northern Afghānistān—a type to which no doubt the Afghān crania in the collections of the École d'Anthropologie de Paris also belong. It is interesting in this connexion to note that Yingpān, according to Sir Aurel Stein, lies on the boundary of the home territory of the ancient White Huns.[4] If that be so, then the similarity of skeleton no. 5 to the Yingpān and Yangī Hissar skulls from the Tarīm basin and the modern Tadjik skulls from Kashgar and Afghānistān is easy to understand, since it may obviously have belonged to a White Hun who was slain during the raid, the body getting mixed with those of the inmates of the monastery who were of an essentially different race. As to the latter, we have not been able to find their exact racial counterpart in the older races of the Indus valley, but from the somatic characters of some of the isolated tribes of the Hindu Kush mountains, such as the Red Kaffirs (who were the object of a prolonged inquiry by one of us—B. G.), the Taxila monks appear to be closely allied to them, both probably belonging to a later movement of Aryan-speaking peoples, whose descendants survive in their purest form in some of the mountain tribes living in remote valleys in the north-western parts of India.

[1] *J.A.I.* LIX (1929), p. 154.
[2] *Ibid.*
[3] *Ibid.* p. 159.
[4] Cf. p. 290 *supra*.

Chapter 13. KHĀDEṚ MOHṚĀ, AKHAURĪ, *etc.*

I HAVE referred in a previous chapter to the many ancient Buddhist *saṅghārāmas* that may be seen crowning the small bare flood-eroded knolls with which most of the southern valley is dotted. Four of these *saṅghārāmas* are situate a little to the south-east of the Dharmarājikā, where they form, roughly, a square of 400–500 yards along each side. On the map (Pl. 1) they are distinguished by the letters A, B, C and D, the last, which is known locally as Khādeṛ Mohṛā, being at the north-west corner of the square, A at the south-west, B at the south-east, and C at the north-east. The site B is known also as Akhaurī, but this name is not entered on the map. Four settlements south-east of the Dharmarājikā

The excavation of these four settlements has been on a strictly limited scale, its purpose being, not to clear each site completely, but to lay bare the plans of the buildings by driving trenches alongside their walls while leaving the rest of the ground undisturbed. As a result of this the finds of minor antiquities have been few and even the plans themselves are not to be regarded as definitely complete, since there may still be a few features, particularly the remains of small isolated structures, which have not yet been disclosed. Add to this that the remains themselves were found in the last stages of ruin, their walls having for the most part been reduced to bare foundations or standing no more than a foot or two above floor-level, and it will readily be understood that conditions here are altogether less favourable to the archaeologist than in the case of the better preserved and more thoroughly excavated *saṅghārāmas*, like those at Kālawān, Mohṛā Morādu or Jauliāñ.

In spite of this, however, these four Buddhist settlements are of great interest, if only because they date from the period (*c.* A.D. 40–150) when the diaper type of masonry was in vogue, and show us how the quadrangular monastery was being evolved under the early Kushān kings. They also furnish examples of several varieties of masonry not met with on other sites.

Site A

The plans of these four groups are reproduced on Pls. 67–9. Of site A there is little to be said. The buildings consist of a single 'court of cells' with a stūpa on its west side. The court, which is rectangular, measures 103 ft. north and south by about 135 ft. east and west, but its eastern side, as well as parts of its northern and southern sides, have been destroyed. The main entrance to the court was through chamber 11, which faces the stūpa approach. Apart from this chamber there are twelve cells surviving on the southern and western sides, and three more on the northern. On the eastern side, it may be assumed, on the analogy of the neighbouring monasteries, that there were no cells, though there was probably a small

chapel, like the one in C group. The structure in the open quadrangle, the remains of which are shown in the plan, is of much later date than the surrounding cells.

The stūpa B (Pl. 71, *a*) was 35 ft. square, with a broad flight of steps on its eastern side, opposite the monastery entrance. Its plinth, divided into receding terraces, stood on a low stone platform, which projected some 4 ft. on each side of the base. The lower of the two surviving terraces is adorned with a continuous row of stunted Corinthian pilasters (sixteen on each side) supporting a frieze and cornice. The face of the upper terrace seems to have been bare, but the upper part of it has perished. Both stūpa and monastery were originally built of diaper limestone masonry, with decorative features in kañjūr, the whole being finished with a coating of lime stucco. Later repairs were, as usual, executed in semi-ashlar and other kinds of masonry.

Minor antiquities from site A

The only noteworthy minor antiquities found on this site were three coins, viz. one Local Taxilan of the type 'Lion, swastika and taurine', with rev. blank, and two of Vāsudeva of the 'Seated goddess' type. The first came from the debris on the north side of the stūpa; the other two from that on the south side.

Site B (Akhaurī)

The group of remains on site B (Akhaurī) is larger and more interesting than the foregoing. Here, the original monastery consists of a single spacious court (F), 169 ft. east and west by 143 ft. north and south. The entrance was in the middle of the north side opposite the stūpa, with a lobby (D 2) 26 × 13 ft. inside. To the right of the lobby, as one entered, was a small common-room (D 4) and beyond it the assembly hall (C) occupying the north-west corner of the court (40 × 44 ft. internally). To the left was a stūpa-chapel with a portico in front (D 1 and D 3). On the east side of the court stood a second stūpa-chapel (F 25) but no other chambers, while on the south and west sides were rows of cells to the number of twenty-one in all. There is no trace of a veranda in front of the cells—a feature which is invariably found in later monasteries—or of an upper story.

The walls and larger chambers of this court, which dates from early Kushān times, were built originally of diaper masonry (Pl. 70, *a*), but in the case of the party walls between the cells this diaper masonry seems to have been carried up no more than about 1 ft. 6 in. above floor-level. From that point upwards the walls were constructed of rough boulders laid in mud (Pl. 70, *d*). A similar method of construction was, as I have already observed, followed in the case of many buildings in the Śaka-Parthian city in Sirkap, and we shall meet it again in the Kālawān and Pippala monasteries. Later on, many of these unsubstantial half-mud walls collapsed and were rebuilt in various kinds of masonry: some of good solid semi-ashlar work, others of late irregular diaper, and others of nondescript masonry (Pl. 70).[1] It is to one of these later reconstructions that we must refer the imitation diaper work of the high wall between the entrance lobby and the stūpa-chapel D 1 (Pl. 70, *b*).

[1] The specimen of walling illustrated in Pl. 70, *c*, calls to mind some of the diaper work of Gandhāra.

The outer walls of the assembly hall (C) are of a heavy and rather coarse kind of diaper, which is found also in the nearby monasteries D and C. These, too, appear to be renovations, since there can be little doubt that the assembly hall was part of the original plan. Around the rest of the court the outer walls are composed in part of large conglomerate blocks compacted with small chips in the interstices. Whether these belong to later repairs or not is not clear.

In the stūpa-chapel D 1 at the side of the entrance, the sill of the open portico is composed of heavy blocks of grey Tarakī sandstone—a stone which, as we have already seen, was employed for the pillars of the Jaṇḍiāl temple, and in other respects this chapel is particularly well built. The steps at the outer approach to the entrance lobby (Pl. 69, *d*) are a later addition in semi-ashlar masonry.

The smaller court E, on the west of the great court, is also a later extension, with walls of semi-ashlar masonry. It contained eleven cells only, ranged round three sides of the quadrangle.

The main stūpa A on this site stands opposite to the entrance of the monastery and thus faces south. Its walls, like those of the monastery, were originally of fine early diaper with kañjūr mouldings and plaster facing. It is of much the same size as the stūpa on site A but slightly oblong instead of square, measuring 37 ft. from north to south by 33 ft. from east to west, with a flight of steps projecting another 18 ft. from its southern side. Save for a simple torus and scotia base moulding, the plinth was plain and, unlike the stūpa on site A, devoid of terraces. The four small square-based stūpas A 1–A 4, which flank the steps on either side, are substantially later than the main edifice and constructed of a late coarse variety of diaper masonry, not far removed from that of the monasteries and stūpas on the Khāder Mohrā (D) site. Contemporary, or approximately contemporary, with them is the other small square stūpa A 6 to the north of the main edifice, and the range of five small chapels B 1–B 5 on its west.

Of the minor antiquities found in this *saṅghārāma* the most important were the coins. These numbered 272 and comprised: ten Soter Megas ('Bust of king and king on horseback'); four Kadphises I ('Bust of Hermaeus and Heracles' = *P.M. Cat.* XVII, no. 8); three Kanishka ('King at altar and Fire-god'); two Huvishka ('King on elephant and Sun-god'); 253 Vāsudeva (viz. thirty-nine 'Seated goddess' type, and 214 'Śiva and bull' type). Most of these coins were found in groups which had been intentionally buried. Thus, three of Soter Megas, one of Kanishka and two of Vāsudeva came from under the floor of cell F 13; three of Soter Megas, one of Kanishka and one of Huvishka from F 15; two of Soter Megas from F 19; three of Vāsudeva from F 16, two from D 2, and 238 of the same king (202 'Śiva and bull', and thirty-six 'Seated goddess' type) from a broken pot. The remaining sixteen coins were found singly in different parts of the ruins. Minor antiquities from Akhauri (site B)

Among other minor antiquities from this site were: (*a*) and (*b*) two small Gandhāra reliefs, one a well-modelled monk's head and the other a spirited cock ('Stone Sculptures', ch. 36, no. 59), both from the ground in front of stūpa A; (*c*) a collection of twelve copper vessels from B 2, including the four bowls described under 'Copper and Bronze Objects', ch. 28, nos. 277, 280 and 284); (*d*) a copper *triratna* surmounted by three *dharmacakras* (*ibid.* no. 404) from chapel B 1; (*e*) a statuette of Maitreya (*ibid.* no. 423), from cell F 18.

Site C

The remains on C site, like those on A, consist of a single court of cells with a stūpa outside to the west, but the court here is larger, measuring 142 ft. north and south by 170 ft. east and west. The cells, thirty-five in number including the entrance lobby (no. 28—in the middle of the western side), are disposed on three sides of the quadrangle. On the fourth (east) side is a single small chapel (no. 36), from which the cult object, presumably a stūpa, has vanished. The original walls were built of good diaper masonry, which in the case of the party walls between the cells was surmounted, in all probability, by 'boulder-in-mud' work of the same kind as may still be seen on site B (Pl. 70, *d*). At a later date the diaper work was repaired with coarse semi-ashlar and nondescript work, in which larger boulders were employed. The unusually broad party walls on each side of cell 6 suggest that this particular cell may have been used as a strong room.

The main stūpa (Pl. 71, *d*), which faces the entrance to the monastery on its west side, was built, like the latter, of fine diaper masonry coated with lime plaster, but is now in a very derelict state. It measures 50 ft. east and west by 47 ft. north and south, with a rather narrow flight of steps projecting from its eastern side. As in the case of the stūpa on site A, the plinth is divided into two terraces, but the lower terrace does not appear to have been relieved by any decoration.

Coins from site C

The coins from this site numbered thirty-eight and comprised the following groups. From cell 1: one Azes I ('King on horseback and Pallas right'), six Azes II ('King on horseback and Zeus Nikephoros'). From cell 2: one Azes I ('King seated and Hermes'), one Azes II (as above), five Kadphises I ('Bust of Hermaeus and Heracles'). From cell 13: sixteen Soter Megas ('Bust of king and horseman'). From cell 23: one Kanishka ('King at altar and Wind-god'), one Huvishka ('Bust of king and Sun-god'). From cell 24: one Gondophares ('King on horseback and Zeus right'), one Kadphises I (as above), one Kanishka ('King at altar and Fire-god'). From cell 31: two Kanishka ('Sun-god' and 'Wind-god' types), one Huvishka ('King on elephant and Lunar deity').

No other minor antiquities worthy of note were found on site C.

Site D (Khāder Mohṛā)

Khāder Mohṛā (site D), the fourth site, was also the largest, comprising two large stūpas and two monastic courts, besides other buildings connected with the latter (Pls. 68, *b* and 69, *a*, *b*, *c*). The smaller of these two monasteries (D 1) stands a little to the west of the larger (D 2). Both differ in plan from the three monasteries already described. In the western group, D 1 (Pl. 68, *b*), the stūpa B, instead of facing the entrance to the monastic court, which is on its west, faces the north, and seems to have stood in a court of its own, though the surround walls of the latter have for the most part disappeared. In this group, too, we find not only ranges of cells on three sides of the open quadrangle A, as well as an assembly hall at the south-east corner, but also a complex of several small chambers alongside the latter, and a second rectangular hall—possibly a refectory which was added later—outside its northern wall. In the eastern group, D 2 (Pl. 69, *a*), on the other hand, the stūpa stands in the middle of the monastic quadrangle, with rows of cells on three sides and some additional chambers, the remains of which have been all but effaced, on the fourth (east) side.

Character of masonry at Khāder Mohrā

The earliest kind of masonry to be seen at Khāder Mohrā is a heavy coarse variety of diaper, which was in vogue in the second century A.D. A characteristic sample may be seen in Pl. 69, c, which illustrates an inner angle of stūpa C, in monastery D2.[1] Here we see that the interstitial stones resemble those found in the succeeding semi-ashlar, not those found in the earlier diaper work, and that the horizontal joints between the heavy, roughly dressed limestone blocks are more even than in the earlier kind of diaper work. We get a glimpse, too, at the foot of this photograph, of the rough-and-ready way in which the mouldings were blocked out in kañjūr prior to being finished off in lime plaster. It should be added that some of the diaper masonry visible in the monastery walls shows an even closer approach to semi-ashlar than the above sample, resembling in this respect the masonry of the small stūpas A2 and A3 on B site, and presenting a marked contrast to that of the main stūpa A on the same site. This may be partly due to later repairs, which it is not always easy to distinguish from the original work. In any case it is safe to assume that the foundation of the two monasteries was contemporary with that of the stūpas, though subsequent additions were no doubt made to both.

Minor antiquities from Khāder Mohrā

The minor antiquities recovered on this site were singularly few. Of coins there were only ten— all found singly, viz.: one Hermaeus ('Bust of king and Nike') from D2, room 9; one Azes I ('Lion and Demeter') from D1, stūpa-court, room 10*a*; one Soter Megas ('Bust of king and horseman') from D1, court A, cell 8; one Kadphises I ('Bust of Hermaeus and Heracles'), *ibid.* quadrangle; two Kanishka, viz. one 'King at altar and Fire-god' from spoil earth, and one ditto and four-armed Śiva from south side of stūpa B; two Vāsudeva, viz. one 'Śiva and bull' type from room 3, south of stūpa B, and one 'Seated goddess' type from south side of stūpa B; one Vakkadeva from surface. Besides the coins, the only other noteworthy objects were the blade of a steel sword ('Iron Objects', ch. 27, no. 58, *a* = Analysis Table, no. 2) and an earthenware basin ('Pottery', ch. 23, no. 116).

Date of foundation of four settlements

The foundation of the four Buddhist settlements described above is, as we have seen, to be referred to the period between about A.D. 40 and 150; for in some of these buildings (e.g. the main stūpa on B site) the original masonry appertains to the fine diaper variety which came into fashion after the great earthquake; in others to the late coarse variety of diaper which immediately preceded, and perhaps overlapped, the earliest kind of semi-ashlar work. Fine diaper masonry was introduced in the first instance under Parthian rule and it is possible, therefore, that the earliest of these monasteries go back to that date, having been designed to take the place of buildings destroyed in the great earthquake. More probably they were erected under Kushān rule. Indeed, they may well have been an indirect result of the transfer of the city from Sirkap to Sirsukh, for which V'ima Kadphises was probably responsible. For if, as seems likely, members of the *saṅgha* had been living in the Sirkap city, new accommodation for them would have become necessary, and it may well have seemed preferable to provide this accommodation in the

[1] The angle illustrated is where the stairway joins the body of the stūpa on the east side of the former, the north of the latter.

near vicinity of the Dharmarājikā—the central place of worship for the whole community—rather than in the new and inconveniently distant city of Sirsukh.

and date of their destruction

What of the date of the destruction of these settlements, which was accompanied by a general conflagration and seems to have happened simultaneously on all four sites? The answer, I think, is given by the coin finds. Of the 323 coins intentionally buried or lying haphazard in the soil, one only is posterior to the Kushān king, Vāsudeva, and that one—a coin of Vakkadeva—was found lying on the surface. Of the rest one was Local Taxilan, one Greek, eleven Śaka or Parthian and 309 Kushān; and of the eleven Śaka or Parthian, ten were found in buried groups with Kushān coins, that is to say, they were survivals from an earlier period which were still in circulation under the Kushāns. In face of these facts it is difficult to resist the conclusion that these monasteries were flourishing during the early Kushān period, and that they ceased to exist during or not very long after the reign of Vāsudeva, i.e. according to my reckoning, in the first half of the third century A.D. This conclusion would accord with the evidence from Kālawān and other Buddhist sites, where groups of Vāsudeva's coins had been buried and left unretrieved, presumably because of the death of their owners.

The evolution of the saṅghārāma which they illustrate

What gives these four groups of remains particular interest is the light they throw on the evolution of the *saṅghārāma* in the first and second centuries A.D. They show that before the close of the first century the old type of *saṅghārāma*, with its haphazard methods of planning and its lack of security and privacy for its inmates, had disappeared. The stūpa is still of primary importance, but the tendency is to separate it from the living-quarters of the monks, which are now securely enclosed in a walled-in quadrangle, copied from the age-old plan of the private house. In the simplest type of the new monastery, represented by the one on site C and probably by that on A also, the living cells are disposed on three sides of the quadrangle, the fourth side being left bare or occupied only by a single small stūpa-chapel reserved for the private use of the monks. On these two sites the hall of assembly and other indispensable adjuncts were in all probability outside the monastery, and may have been built of perishable materials, as they had been in the earlier *saṅghārāmas*. Such conservatism would have been natural during this transitional period, particularly in the case of a quasi-religious structure like the hall of assembly. In the next and more developed type, represented by the monastery on site B (Akhaurī), there is the same private chapel (F 25) in the middle of one of the sides of the quadrangle, but the living cells are restricted to two sides, and the fourth side is occupied by an assembly hall, a common-room and another stūpa-chapel (D 1). The main cult stūpa is still in the open facing the entrance to the monastery, as it was on sites A and C. The small subsidiary stūpas A 1–A 5, the row of five chapels B 1–B 5 and the smaller monastic court E are all later accretions.

Further developments in the evolution of these *saṅghārāmas* are to be seen on the Khāder Mohrā site (D). In the western group (D 1) three sides of the monastic quadrangle are occupied by living-cells and the fourth by a complex of chambers, including an assembly hall (28) and (?) small chapel (25), the full extent of which

is no longer ascertainable. On this site, moreover, the main stūpa appears to have stood in a court of its own, with a few chambers, some of which may have been chapels, set against the surrounding walls, but whether these were later additions or not their remains are too fragmentary to disclose.

In the other group (D 2) the plan is quite different. Here the stūpa stood in the midst of a large court, with rows of cells on three sides and what appear to have been several larger apartments, including no doubt an assembly hall, on the fourth side, though only a few fragments of the latter have survived. The plan is thus generally similar to that of the small monastery M 5 at the Dharmarājikā, which is also referable to the second century A.D., though to a somewhat later date than this one.

Let me add that the final steps in the evolution of the Buddhist *saṅghārāma* remained to be taken in the fourth and fifth centuries, when the image-chapel had become as constant and ubiquitous a feature as the stūpa itself. In the *saṅghārāma* of Jauliāñ, for example, we shall see how, as time went on, the living-quarters had come to be completely separated from the courts of public worship; how the chief cult stūpa was placed in a quadrangle of its own, with ranges of image-chapels, in place of the older living-cells, on all four sides of it; how, apart from a single small private chapel and some cult images, the monastic quadrangle was reserved exclusively for the living-quarters of the monks; and how, finally, the hall of assembly, refectory and kitchen came to be grouped together outside this quadrangle in a position where they would be least likely to interfere either with the meditations of the monks or the devotions of lay-worshippers in the public courts.

Chapter 14. KĀLAWĀN

Position of Kālawān and ancient name

NEXT TO the Dharmarājikā, the Buddhist settlement at Kālawān is the largest at Taxila and one of the largest in Northern India. It is situated on the north side of the Mārgala spur about 1¼ miles as the crow flies south-south-east of the Dharmarājikā and rather less than 2 miles from the Bhir Mound city. From an inscription found on the spot it appears that in ancient days its name was Chaḍaśilā, but no trace of this name has been preserved among the surrounding hamlets. To-day the place is known as Kālawān or 'the Caves', from the presence of three small caves in the hillside, which the farmers use for the storing of their hay and grain. Near these caves, jutting out from the steep face of the spur, are various natural ledges of rock, of which three are occupied by Buddhist buildings: the largest of the three in the middle, and the smaller ones above and below it.

The position, as usual, was a well-chosen one, having the advantage of being on the cool side of the hill and commanding a singularly fine view both of the valley to the north, with its winding stream and pleasantly terraced cultivation, and of the rugged overshadowing heights behind it on the south, while at the same time affording the monks a ready way of escape into the Murree hills in the event of hostile invasion.

Water supply

Water was obtained from a well which still exists about 130 yards from the western foot of the hill. The well is 11 ft. 6 in. in diameter with a stone lining about 3 ft. thick at the mouth. Carrying the water up the steep hillside must always have limited its supply, though it was doubtless regarded as a valuable exercise and discipline for the novices to whom this duty fell, and it may be that help, too, in this matter was contributed by the lay-brothers or others who came to pay their devotions at the stūpas.

Remains on middle terrace

From the plan on Pl. 72 it will be seen that the remains on the middle terrace cover an area some 450 ft. from east to west by 270 ft. from north to south, and comprise a stūpa-court (A) on the north, with three large courts of cells (B, C and F) and other monastic rooms or halls to the south. These buildings are not all on the same level, nor are they all of the same age. The court of cells C stands on a terrace 17 ft. above the stūpa-court A, 14 ft. above the court B, and 19 ft. above the court F, A being 3 ft. lower than B and 2 ft. higher than F. Moreover, while the hall E2 connects with the court F on the lower level, the court E, which adjoins it on the south, is on the higher level and connects with the court C.

Three types of masonry

In the main, three different classes of masonry are represented at Kālawān, namely: (1) A small diaper masonry similar to that found in chapel G5 and other contemporary buildings at the Dharmarājikā Stūpa (cf. Pl. 55, no. 2 and ch. 10, pp. 255, 260). In this particular type of small diaper the small stones in the

interstices between the bigger boulders are not very thin, and a definite suggestion of courses is given by the clearly marked horizontal lines of small stones, which seem to be preparing the way, as it were, for the semi-ashlar style which was to come later. This type of diaper masonry is readily distinguishable from the earlier type of Parthian times, which is found, for example, in the apsidal temple in Sirkap. (2) A later and rougher type of diaper masonry of a somewhat nondescript character. In this type relatively thick stones are freely used, as they are used in semi-ashlar, for filling up the interstices between the boulders. (3) The still later semi-ashlar masonry. All the buildings, however, of the first and second styles were repaired to a greater or lesser extent in semi-ashlar masonry. On the other hand, some of the later semi-ashlar structures are built on the ruins of earlier ones, the plans of which can only be surmised.

Floors and roofs

In the monastic quarters floors were ordinarily made of beaten earth; in courts or spaces exposed to the weather, generally of river pebbles laid in mud, less commonly of stone flags. Roofs were flat and constructed of wooden timbers covered with a thick layer of clay. Much charred wood from the roofs, which was apparently deodar brought down from the neighbouring hills, and masses of half-burnt clay were found on the floors of the burnt-out buildings.

Unusual plan of stūpa-court

In the stūpa-court A the plan of the monuments is unusual. In such courts the outstanding feature is generally a central stūpa which overshadows all the subsidiary stūpas and chapels around it; but here, at Kālawān, the central stūpa A4 is of relatively small dimensions (*c.* 37 ft. square), little larger than the stūpa A 12 alongside it, and certainly not large enough to dominate the rest of the monuments. This relative insignificance is partly due, no doubt, to the fact that at the time when these monuments were first erected there was a tendency to favour the apsidal temple with a stūpa inside it (*griha-stūpa*) at the expense of the older open-air type such as the great Dharmarājikā. But another reason was that the small central stūpa at Kālawān was more proportionate to the size of the original monastery, which was far less extensive than it eventually became.

Stūpa A4 and its relic chamber

The original structure of the main stūpa A4 is built of the first type of diaper masonry noted above (cf. Pls. 73, *d* and 74, *a*). At a later date—possibly in the third century A.D.—large sections of the original walls of stūpa A4 were repaired in the second type of nondescript masonry, and still later—in the fourth to fifth century A.D.—a plinth was added around its base of semi-ashlar limestone masonry, with stunted Corinthian pilasters of kañjūr. At the back of this plinth the pilasters of the older structure are still preserved.

A feature of particular interest in this stūpa is the unusually large size of its circular relic chamber, which is no less than 13 ft. 3 in. in diameter, with walls which start to cove inwards from a height of between 2 and 3 ft. above the floor (Pl. 73, *d*). On the inner face of these walls were several layers of whitewash, which appeared to indicate that the chamber was repainted from time to time. If this was so, the question arises how the chamber was entered and for what special reason this particular relic chamber was not permanently closed, like the relic chambers

of other monuments of this class. A similar problem is presented by the great Kushān stūpa at Mohenjo-daro[1] in Sind, the relic chamber of which was also circular and finished off inside with mud plaster. In that case the evidence was not so clear as it is at Kālawān, and I was inclined to take the view that the interior of the drum had been filled in and covered with a dome of the customary pattern. With the discovery, however, of this stūpa at Kālawān, it is necessary to reconsider this view, since it is quite certain that in this case the chamber could not have been filled in.

Minor antiquities from stūpa A4

Among the smaller antiquities found in and around stūpa A4 were the following:

Silver (Kn. 66). From north side. Fragment of a silver stand with flat square base; dimension of base 1·25 in. square.

Stone Sculptures. Ch. 36, no. 177, head of Bodhisattva of chloritised mica schist; no. 180, torso of standing male figure of phyllite.

Stucco Sculptures. Ch. 26, nos. 86, *a* and *b*, heads of Buddha; no. 89, torso of standing Bodhisattva; no. 92, head of lay-worshipper; no. 94, head of ascetic (?); no. 95, head of grotesque Atlant; no. 96, lower portion of standing figure wearing armoured tunic over *dhotī*.

These and the following stucco pieces, which are not included in the general catalogue, had served to decorate the base or drum of the stūpa and were found lying where they had fallen at its foot. Four standing figures—one of a Bodhisattva (Kn. 555), another, perhaps of Kubera (Kn. 54), and two more of females (Kn. 181 and 452), the latter holding some flowers (?) in her right hand. Five detached heads belonged to Buddha images (Kn. 261, 444, 489, 540 and 583), eleven to lay-worhippers (Kn. 70, 190, 228, 287, 443, 445, 447, 449, 490, 551 and 669), two to shaven monks (Kn. 72 and 582), and one to an Atlant (Kn. 212). Of the architectural fragments, one piece (Kn. 109) is adorned with a bunch of grapes in relief, another (Kn. 157), from a frieze, shows a stūpa in a niche and a pilaster at its side; and a third (Kn. 475) a pillar medallion with two parrots seated on opposite sides of a bowl. Some of the lay-worshippers wear elaborate head-dresses adorned with fantail and other crests; others wear simple fillet bands with or without a flower at the side. Many of the pieces still retain traces of red paint, particularly on the hair of the lay-worshippers, e.g. Kn. 445, 447 and 449.

Coins. Two Kanishka (one 'Seated Buddha' and one 'Nanaia' type); three Vāsudeva ('Śiva and bull').

Stūpas A6–A11

The remains of the five small stūpas, A6–A10, in front of the main edifice and of A11 near its south-west corner, call for few remarks, since they are similar in all respects to scores of other small monuments of this class. The only one among them that contained any relic deposit was A9, which stands at the western side of the approach to the main stūpa. The tiny relic chamber of this stūpa, measuring 7 × 7 × 5 in., was hollowed out of a single block of kañjūr and closed by a limestone slab. In it was a small spherical casket of steatite containing a few fragments of bone. The casket (Pl. 80, *f*), which has a diameter of 2·37 in., is provided with a circular lid sunk in its surface and is decorated with six lotus rosettes in circles. The stūpa itself, which is standing to a height of 2 ft. 6 in. only, is built of limestone diaper with a facing of kañjūr.

[1] *M.I.C.* I, p. 115.

Round about these small stūpas (nos. 6–11) were a few stucco fragments and two coins of Vāsudeva (one 'Śiva and bull' and one 'Seated goddess'). Whether the stuccos came from the small stūpas themselves or from the larger monuments, A4 and A12, it is not possible to say. The fragments included two pieces described among 'Stucco Sculptures', ch. 26, namely: no. 87 (head of a Bodhisattva) and no. 90 (head of a lay-worshipper), and the following pieces not included in the Catalogue: standing female figure holding a relic casket in her hands (Kn. 123); head of a Buddha (Kn. 132); two heads of lay-worshippers (Kn. 194 and 204); head of an ascetic with coiled hair (Kn. 187), and an architectural fragment with scaly leaf pattern (Kn. 125).

Of the stūpa A12, which stands immediately to the east of the main stūpa, nothing but the plinth-base has survived. It is constructed of small diaper faced with kañjūr and finished with lime plaster, and is evidently of about the same date as the main stūpa. The face of the plinth was relieved with a series of Corinthian pilasters resting on a moulding of the customary torus and scotia form. From the debris at its foot came a number of stucco reliefs, a fragment of the crowning umbrella, and some shafts, bases and capitals of the Corinthian pilasters which had once adorned the superstructure. Two of the reliefs are described and illustrated in chapter 26, viz. no. 88 (head of Bodhisattva) and no. 93 (head of ascetic). Stūpa A12

Other stucco pieces, not described in that chapter, included: a head of a Buddha image (Kn. 601), another of an ascetic (Kn. 507), three heads of lay-worshippers (Kn. 221, 259 and 431), two torsos of Vajrapāṇi (Kn. 397 and 595), two broken figures of lay-worshippers (Kn. 371 and 594), and one of a female figure holding the shaft of an umbrella (?) (Kn. 222). From the same spot also came a stone volute bracket in the form of a turbaned *garuḍa* head ('Stone Sculptures', ch. 36, no. 61).

The stūpa-shrine A14, on the other side of the main stūpa, is also of the same age and built of the same kind of diaper masonry (Pl. 74, *a*, *b*). Over all, it measures 39 ft. 3 in. from north to south and 21 ft. 4 in. from east to west, and is standing to a height of 4 ft. 6 in. above the courtyard level. The original structure comprised only the stūpa-chamber and porch in front of it, with some steps leading up to the latter. Then, another approach was added over the original steps and a new flight of steps provided in their place. This addition was made in diaper masonry but of the later nondescript type referred to above. Finally, two small image-shrines of semi-ashlar masonry (A27 and A28) were built against its back wall (Pl. 74, *b*, foreground). Shrine A14

The plinth decoration of the building takes the stereotyped form of Corinthian pilasters standing on a moulded base, with a dental cornice above and notched Hindu brackets inserted beneath the architrave. Doubtless this decoration was renovated many times during the four centuries of the building's existence, but it seems to have preserved its original form to the end, and, thanks to its good preservation on the western face, it still affords an interesting illustration of characteristic Kushān work. The building does not appear to have been decorated with any figural reliefs in stucco. The floor within this shrine, which is some 3 ft. above the pavement of the courtyard outside, is composed of pounded kañjūr stone and

mud. The small stūpa inside the sanctum is circular in plan and no doubt contemporary with the rest of the building. Unfortunately, little of it has survived and there was no trace of any relic. From the small chapel A 27 came the stucco head of an ascetic with long hair coiled on the top (Kn. 275).

A 1 and adjoining shrines

Of the buildings which encompass court A on its other sides, the most important by reason of the finds made in it is the stūpa-shrine A 1, which, along with the adjoining shrines A 13 and the smaller chapels A 15, A 16 and A 17, forms a solid block of buildings on the eastern side of the court. The oldest part of this block is the shrine A 1, which consists of a square antechamber with an entrance on its western side and an octagonal shrine behind, containing a small circular stūpa. This original structure was built of small diaper masonry resembling that used in the main stūpa, with which it was contemporary. Not long after its erection, however, it was laid in ruins, possibly by an earthquake; and when rebuilt, some of the debris appears to have been left where it had fallen, and instead of the new walls being built directly on what remained of the old, they were built on this layer of fallen debris, which in places is as much as a foot thick. Subsequently, the interior of the shrine seems to have been cleared of this debris down to the level of the original floor. That this reconstruction took place not many years after the first building, is clear from the fact that there is no perceptible difference in the character of the old and the new masonry.

The next stage in the history of this block was reached when another stūpa-shrine, A 13, was erected against the south wall of the existing one; at the same time a terrace was constructed along the back and sides of both shrines, so as to give extra support to their foundations—a support which, in the case of A 1, was likely to have been specially necessary, since its walls, as we have seen, had been erected on nothing more solid than a layer of debris. Still later—and this marks the fourth stage of building—came the erection of the three small chapels A 15, A 16 and A 17 against the south wall of A 13, and also of the bench round the base of the walls inside the forecourt of A 13.

Fifthly and finally, the antechamber of A 1 was repaired in late rubble and semi-ashlar, and its floor was very roughly paved with tiles of blue glass obtained from some older building. To this same late period (probably the fifth century A.D.) belong the square stūpa in A 16 and the projections round the base of the walls in the chapels A 15 and A 16.

Shrines A 1 and A 13

The shrines A 1 and A 13 are both raised about 2 ft. 6 in. above the surrounding courtyard, from which they were approached by steps, now missing, on their western side. In plan, neither of these buildings was quite symmetrical, being narrower across the front than across the back. This irregularity, as may be seen from the plan, is particularly noticeable in A 1. The length of this building from east to west is just on 50 ft., its width at the middle 26 ft. 6 in., while the nave measures 18 ft. internally from east to west, and the apse 19 ft. 6 in. Inside the nave, against the north and south walls, were two low benches once intended, probably, for images but later on the floor-level of the nave between them was

apparently raised by covering it with a layer of debris, and paved over in a haphazard fashion with the tiles of blue glass referred to above (Pl. 77, *c*).[1] The floor of the apse had been paved from the start with stone flags, of which some fragments still survive. The small circular stūpa in its interior is 11 ft. in diameter but stands no more than 2 ft. 6 in. above the floor (section on Pl. 73, *c*). By a lucky chance, however, the relic chamber and its contents were found intact. The chamber was formed, very roughly, by hollowing out a small square block of kañjūr and closing the top with another slab of the same stone, the diameter of the whole being 6·5 in. On this was laid a 9 in. layer of pebbles set in mud, and over this again a heavy slab of limestone. In the chamber was a casket of schist in the form of a small stūpa (height 6·37 in.) surmounted by a square *harmikā* and three umbrellas (Pl. 80, *g*). The surface of the casket, including the umbrellas, was covered with gold-leaf. Inside it was another spherical casket (diam. 1·87 in.), also covered with gold-leaf, as well as the following objects (Pl. 80, *c*):

Contents of relic chamber in A1

Twelve rosettes of thin gold-sheet, diam. about 0·62 in.; one gold disk, diam. 0·55 in.; sixteen rosettes of silver-sheet, diam. about 0·8 in.; and two disks of silver, 0·42 and 0·6 in.

The smaller spherical casket contained: One cylindrical flat gold casket (0·7 in.) with some fragments of bone inside; one barrel bead of yellow quartz, length 0·5 in.; one barrel bead of beryl, length 0·5 in. and one of crystal, length 0·42 in.; six pearls, diam. 0·1–0·18 in.; one decayed spherical bead of bone; one hemispherical garnet, diam. 0·26 in.; two bright peacock-green glass glandular beads, diam. 0·25 in.; one piece of turquoise, length 0·25 in.; two pieces of thin gold-sheet, length 0·48 in.; and three fragments of bone, length 0·1–0·28 in.

Beside the stūpa-shaped casket was a copper-plate measuring 8·87 by 2·65 in. with the following inscription engraved in Kharoshṭhī characters (Pl. 80, *a*). I give the text and translation as published by Prof. Sten Konow in the *Journal of the Royal Asiatic Society* (October 1932), pp. 949 *sqq*.

Inscription of year 134 of Azes

TEXT

(Line 1) Saṃvatśaraye 1 100 20 10 4 ajasa śravaṇasa masasa divase treviśe 20 1 1 1 imeṇa kṣuṇeṇa Caṃdrabhi uasia (l. 2) Dhraṃmasa grahavatisa dhita Bhadravalasa bhaya Chaḍaśilae śarira praïstaveti gahathu— (l. 3) bami sadha bhraduṇa Naṃdivadhaṇeṇa grahavatiṇa sadha putrehi Śameṇa Saïteṇa ca dhituṇa ca (l. 4) Dhramae sadha snuṣaehi Rajae Idrae ya sadha Jivaṇaṃdiṇa Śamaputreṇa ayarieṇa ya sarvasti— (l. 5) vaaṇa parigrahe raṭhaṇikamo puyaïta sarvasvatvaṇa[2] puyae ṇivaṇasa pratiae hotu.

TRANSLATION

'In the year 134 of Azes, on the twenty-third—23—day of the month Śrāvaṇa, on this date Candrābhī, the female worshipper (*upāsikā*), daughter of Dharma, the householder (*gṛhapati*), wife of Bhadrapāla, establishes relics in Chaḍaśilā, in the stūpa shrine, together with her brother Nandivardhana, the householder, together with her sons Śama and Sacitta and her daughter Dharmā, together with her daughters-in-law Rajā and Indra, together with Jīvanandin, the son of Śama, and her teacher, in acceptance of the Sarvāstivādas, having venerated the country-town; for the veneration of all beings; may it be for the obtainment of Nirvāṇa.'

[1] Similar glass tiles both of blue and other colours were found in chapel F1 as well as in the *pradakshiṇā* of the Dharmarājikā Stūpa.

[2] Read *-satvaṇa*.

The presence of this record in the shrine fixes the date of the building within two years of the shrine G 5 at the Dharmarājikā Stūpa, which contained the silver scroll inscription of the year 136 and which is also built of the same kind of diaper masonry. The inscription is of particular interest in that, like the silver scroll inscription, it contains the word *ayasa* (here appearing as *ajasa*), as to my interpretation of which there was so much discussion. As Prof. Konow has already pointed out, the occurrence of the word in this inscription before *śravaṇasa* in line 1 clearly proves that the word *ayasa* cannot, as he had previously supposed, be equivalent to the Sanskrit *adyasya*, but confirms my interpretation of it as the genitive of *aya*, the Kharoshṭhī equivalent of the Greek *Azes*.

Other objects from A1

To return, however, to the shrine A1. The relics described above were not the only objects of value found in it. Lying in the debris round the stūpa in the octagonal apse were a stucco head of the Buddha (Kn. 151) and eighteen pieces of Gandhāra sculpture, sixteen carved out of dark grey phyllite stone and two out of chloritised mica schist. Thirteen of these pieces are described and illustrated in chapter 36,—viz. no. 62—panel of Amorini; no. 68—panel with female figure dancing on pillar base; no. 69—hymn of the Nāga Kālikā; no. 72—undulating garland with *devīs* and Amorini; no. 77—frieze with two ogee arches, one enshrining a figure of the Buddha, the other a female: no. 92—Queen Māyā's dream; no. 96—haloed deity (? Bodhisattva) seated on chair (Pl. 80, *b*); no. 104—part of relief showing an ascetic and a mailed warrior and another standing on a prostrate figure; no. 105—Māra's attack on the Buddha; no. 117—scene of the *Adhyeshaṇa* (?), no. 133—two Brāhman ascetics; no. 193—three standing figures; no. 196—fragment of Māra's attack.

The other five pieces, which are not included in the list of 'Stone Sculptures' (ch. 36), comprised the fragmenr of a hermitage with the feet of two figures above (Kn. 171); part of a Vajrapāṇi figure (Kn. 133); and three fragments of friezes, one showing a figure standing beneath an arch (Kn. 88), another a male figure with flower in right hand between two females (Kn. 89), and the third two standing male figures. With these sculptures was also found a copper coin of Vāsudeva of the 'Seated goddess' type.

Heterogeneous character of votive reliefs

Evidently these sculptures must have been in the shrine until its final destruction in the fifth century A.D. In Gandhāra itself it was usual, as we know from Sīkrī and many other sites, to adorn both chapels and stūpas with friezes, architraves, capitals and other architectural members carved in relief; and it might be natural to suppose that these carvings found in shrine A 1 at Kālawān were also employed in this way for the embellishment of the interior. But when we turn to the sculptures themselves and examine them in detail, we find that they are of so very heterogeneous a character, that it is impossible to assign them to one and the same date, or to imagine them as having belonged to a single uniform scheme of decoration. Let the reader look, for example, at Pl. 218, no. 92, and mark how well modelled are the figures of Māyā lying on the couch and of the attendants standing near her, and how very Hellenistic in feeling is the composition of this group, with the figures standing out clear and detached and without any crowding against the flat background. This particular relief is a characteristic specimen of Gandhāra art at a relatively early stage in its evolution, when Hellenistic influence was comparatively vigorous on the North-West Frontier, and is just the sort of relief work

that we should expect to find towards the close of the first century. But there are other pieces (e.g. nos. 77, 105, 117, 133) in which the figures are squat, their expressions fatuous, and their style as well as details such as we cannot but attribute to a more decadent phase in the history of this school. We must not, of course, expect the reliefs of any one period to be all of equal merit. There must always have been some differences of style and much inequality of workmanship, according to the varying abilities of the sculptors; but in this group of Kālawān carvings the differences are much too fundamental to be accounted for in this way. The only possible explanation is that the reliefs were executed at widely different periods and dedicated here by pilgrims from beyond the Indus, just as Gandhāra reliefs were occasionally dedicated at other Buddhist centres, such as Mathurā, Sārnāth and Bodh-Gayā. That they should have been kept mainly in one chapel rather than scattered about over many, was natural enough, since it could certainly not have contributed to the appearance of the buildings to have had a medley of these reliefs inset here and there in their plastered walls. The same practice of keeping these votive reliefs together in one building appears to have been also followed at the Dharmarājikā, where a large assortment was discovered in or round building L; and in that case it is also significant that they are almost as varied in age and style as the group at Kālawān. All the evidence obtained at Taxila—and it is very considerable—combines to show that the buildings L at the Dharmarājikā and A 1 at Kālawān were erected at a time when the Gandhāra School was already at its zenith, and it is only to be expected, therefore, that Gandhāra sculptures should be particularly associated with buildings of this class. Gandhāra sculptures are seldom found in the later buildings of semi-ashlar masonry, since the school had died out before most of these buildings came into existence.

Griha-stūpa A 13

To return, however, to the buildings in the stūpa-court at Kālawān. In the shrine A 13 (Pl. 76, *a*), which adjoins A 1, there are the same kind of low benches against the two side walls, which served, as I have said, for the exhibition of statues or other sculptures which could not be affixed to the walls. In this *griha-stūpa*, as the inscription calls this class of building, the inner chamber containing the stūpa takes a square instead of an octagonal or round form, with a measurement of 22 ft. each way, the antechamber being 21 × 16 ft. and the doorways having a width of 12 ft. The circular-shaped stūpa, which is constructed of the same kind of diaper masonry as the walls, was divided into diminishing terraces or drums, with a small projecting plinth (10 × 10 in.) at the foot.[1] Just below its foundations was brought to light a spherical casket of talcose schist, diam. 4·12 in., decorated with bands of incised cross-hatching and an eight-petalled lotus (Pl. 80, *i*). Inside it was a cylindrical casket of silver, height 1·37 in., and inside this again a smaller cylindrical casket of gold containing two small fragments of bone (Pl. 80, *e*, *d*). It is noteworthy that in this stūpa the stone relic casket was not protected by a relic chamber but

Contents of relic chamber in A 13

[1] The lowest drum is 2 ft. 10 in. high, with a projection of 1 ft. 3 in. beyond the face of the on above it.

laid directly in the earth below the foundations, as the practice had been in the Śaka-Parthian period, but was not customary at this time.

Date of chapels A 13 and A 15–A 17

This shrine, A 13, appears to have been reduced to ruins and rebuilt in part at the time when the three small chapels A 15 to A 17 were erected against its southern side. This is clear, not only from the coarser character of the masonry used in the rebuilding, but from the fact that there is no dividing line between the walls of A 13 on the one hand, and of A 15 to A 17 on the other, so that, at first sight, it looks as though they must all have been erected at the same time. That this, however, was not the case is conclusively demonstrated by the fact that, as already stated, the low supporting buttress which was built round shrines A 1 and A 13 on their north, east and south sides, runs *under* the party walls between the three chapels as well as under the small square stūpa in A 16; and, inasmuch as this buttress was a subsequent addition made to A 1 and A 13, it follows that both these structures must be older than the chapels A 15 and A 17. Let it be added that the remains of the stūpa in A 16 are very fragmentary, but enough to indicate that it was erected in early medieval times—probably in the fifth century A.D.

Small finds in A 15

Inside the chapel A 15 was found a small stucco head of a lay-worshipper (Kn. 401) and in front of it a stucco piece in the form of a bunch of leaves (Kn. 575) and two Gandhāra reliefs of phyllite, namely a figure of the Bodhisattva Maitreya standing on a full-blown lotus ('Stone Sculptures', ch. 36, no. 144) and a bearded anchorite seated in his leaf hut (*ibid.* no. 134). No other small antiquities were found in or round this group of chapels.

Shrines A 31–A 34

Opposite to the foregoing buildings, on the west side of the stūpa-court, is another row of four shrines, A 31 to A 34. These were originally built of small diaper masonry and were in all probability contemporary with the reconstruction of the *griha-stūpa* A 1, but later on were repaired in various places with semi-ashlar masonry. Unfortunately, the greater part of the back chambers in three of them and a corner of the fourth have collapsed and fallen down the hillside. This is particularly to be regretted in the case of A 33, since it occupied a position directly opposite to A 1, to which it appears to have been a counterpart, and there is every likelihood, therefore, that interesting relics might have been found in it. On the west side also, and near the south-west corner of the court, is yet another small image-chapel, A 30, which was raised on a plinth 3 ft. 10 in. above the level of the court and provided with a short flight of steps in front. In reality, this chapel was the north-east corner chamber of the monastery court B, with its eastern wall dismantled. No small antiquities were found in any of these chapels.

Chapel A 5 and adjacent buildings

Of the buildings above ground on the north side of the court, A 5 consists of a large chamber approximately 35 ft. square, with a smaller rectangular chamber inside, which no doubt contained a cult statue, and between them a narrow passage for the *pradakshiṇā* of the faithful. In front of it, to right and left of the entrance, are two small chapels, both containing plinths for images. All three structures are of late semi-ashlar masonry. Beneath them are the remains of an earlier chapel with a large plinth, about 43 ft. square, and a stepped approach on the south side,

which can be seen on the plan between the two small chapels referred to above. Beneath this plinth, again, is a still older structure, the foundations of which descend to a depth of about 3 ft. 9 in. below the level of the court. Both of these structures are of diaper masonry, the lower of the two being probably contemporary with the original building of A 1; the upper with its reconstruction.

Stucco figures from A 5

From the debris on the north-east side of chapel A 5 came the lower parts of two stucco figures, one of Maitreya(?) holding a flask in his left hand (Kn. 602), the other of a warrior wearing a sword and a mail tunic over his *dhoti* (Kn. 606). Also the left hand of a stucco figure holding a bowl (Kn. 604), and a bunch of pipal leaves fashioned in the same material (Kn. 603).

Chapel A 2 and nearby stupas

The chapel A 2 is a double-chambered rectangular building in the semi-ashlar style and of the same period as A 5, with a wide doorway between the two chambers and a stepped approach of kañjūr stone leading up to its plinth. In front of it, to the left of the entrance, is a small chapel, and between it and A 5 are the remains of two small stūpas. The latter, which are below the present level of the court, appear to be contemporary with the plinth under A 5. Here, too, may be noticed the remains of a small stūpa well to the east of A 2 and at the back of the chapel A 1. Near this stūpa, of which only a few vestiges have survived, were found three pieces of a stucco frieze (Kn. 67), two showing a stūpa in niche with pilaster at side, and the third the Buddha's almsbowl.

Chapels A 18–A 26

On the south, the stūpa-court is bounded by a raised terrace surmounted by a number of small chapels (A 18 to A 26) of varying sizes and dimensions, and the remains of a small stūpa (A 23). The reason for the raised terrace on this side is that the rocky ledge upon which this group of buildings stands rises somewhat at this point towards the hillside on the south, and it was easier for the architects to raise an elevated terrace for their structures than to cut away the rock. This also explains why the courts of cells B and F and the halls E 1 and E 2 are on such different levels.

Most of the chapels on this terrace are raised only about 3 ft. above the level of the court (Pl. 76, *c*), but the small chapel A22 near the middle of the platform was almost on the same high level as the court of cells C, viz. 17 ft. above the stūpa-court A, and was approached by a narrow flight of steps, which ascends from east to west against the face of the terrace (Pl. 77, *b*). The prominent position of this chapel, overlooking the main stūpa, may be assumed to be due to nothing more than the presence of a small rocky eminence at this point, but this assumption has not been tested by actual excavation. Both this and the other chapels, as well as the terrace under them, were approximately contemporary with the main stūpa A4, but their walls were afterwards patched up in many places either with the later kind of nondescript diaper masonry previously alluded to, or with semi-ashlar masonry. The narrow berm in front of chapels A 19 to A 21 is a later addition in the semi-ashlar style. At the eastern end of this plinth, between A 19 and E 2, a flight of steps led up to the higher level of court C. Originally, the whole of this flight was of stone, but it seems that in later days some of the steps were demolished and

a short wooden ladder substituted, which could be moved at will. The square stūpa A23 appears to have been contemporary with the chapels but, like them, to have been rebuilt. To the west of it is a low rectangular plinth (A24), which was possibly the base for another stūpa. Most of the chapels on this side contain low benches inside for images.

Minor antiquities from chapels A18–A26

The few minor objects from these chapels comprised the following:

From A18. Plain finger-ring of copper (Kn. 576).

From A19, front. Headless image of fasting Buddha ('Stone Sculptures', ch. 36, no. 102).

From A20. Part of bowl-shaped bell of bronze, diam. 3·3 in. (Kn. 437); upper part of stucco figure holding bowl, height 4·75 in. (Kn. 511); small stucco head of a lay-worshipper, height 2·2 in. (Kn. 547).

From A21, front. Ring-handle of a copper bell, length 1·3 in. (Kn. 518).

From in front of A22 and A23. Stucco head of Buddha from same mould as Kn. 141, height 5·7 in. (Kn. 567); lower part of warrior in stucco, wearing tunic and holding sword in sheath, height 0·4 in. (Kn. 571).

From between A24 and A25. Stucco head of lay-figure with long curly hair, height 5·25 in. (Kn. 516).

From front of A26. Stucco head of lay-worshipper wearing fillet with rosette (Kn. 457).

Stucco sculptures from court A

Besides the stucco sculptures described in the foregoing pages a few pieces were also found lying in the open area of court A unassociated with any particular building. Altogether these stucco sculptures number over seventy. All are characteristic work of the Indo-Afghān School, but for the most part not so well preserved nor so instructive as the stuccos from Mohṛā Morādu, Jauliāñ, and other sites.

Noteworthy feature of Kālawān sculptures

There is one feature, however, of the specimens from Kālawān which deserves particular notice. I refer to the unusual cast of countenance which distinguishes a number of the heads: the somewhat short nose, full cheeks, prominent chin and full and pronouncedly curved lips (e.g. Pl. 160, no. 86, *b* and Pl. 161, nos. 86, *c* and 87). This particular facial type, which occurs but very rarely in the sculptures from other sites, is evidently peculiar to one sculptor or possibly to a family of sculptors, who were engaged almost exclusively, so far as Taxila is concerned, on the monuments of Kālawān. It would be interesting, however, to know if the same type, which is easily recognisable, is represented among the collections of fifth-century stucco heads from other sites than Taxila; for we cannot suppose that such a sculptor would remain all his life in one place. The probability is that he would move from monastery to monastery, getting contracts wherever he could for the decoration of newly built stūpas or the renovation of old ones.

Coins from court A

Eighteen copper coins were found in and round the buildings in court A. Eight of these have already been noticed; the other ten included:

One Kadphises I ('Bust of Hermaeus and Heracles') from A33; one Kadphises II ('Śiva and bull') from A13; one Huvishka ('King seated and Sun-god') from A31; four Vāsudeva ('Śiva and bull'), one from A5, two from A21, and one from A34; three Vāsudeva ('Seated goddess')—one each from A5, A15 and A33.

Plan of court C

The high terrace at the back of the chapels described above—17 ft. above the stūpa-court—was occupied by the monastic quadrangle C and a group of rooms or

halls connected with it on its eastern side, viz. D 1 to D 7 and E 1, the quadrangle B being on the lower level to the west and the quadrangle F, with the hall E 2, on the lower level to the east (cf. Pl. 75, *a*). The quadrangle C is unusual in plan, containing only two rows of cells, one on its western and one on its southern side; but there is a group of small chambers outside the court at the north-east corner, viz. D 3–D 7, two or three of which may possibly have served as cells. The entrance at this point (A 18) appears to have been by way of the passage D 6 and so through D 4, but inasmuch as the doorways of this chamber have perished, we cannot be sure of the communication between them.

In the quadrangle itself, although there are cells on two sides only, the veranda plinth is carried round all four sides, its full width being between 10 ft. 6 in. and 11 ft. 3 in.; on the south and east sides a narrower section, only 8 ft. wide, was subsequently added. The drain through which the water escaped from the open depression in the middle of this quadrangle was carried under cell 8 and discharged on to the hillside at the back.

In cell 6, near the south-west corner, is a staircase of late date leading to the upper story, which was probably built to replace an older staircase of wood. In early medieval times cell 2 seems to have been converted into a strong room by rebuilding its front wall and eliminating the doorway, the only means of access afterwards being through a trap-door in the upper story. A similar strong room was, as we know, constructed in one of the cells at Mohṛā Morādu. In the adjoining cell 3 there is a bench against the back wall which suggests that this cell was converted at some time or other into a chapel, since in the Taxila monasteries benches of this kind appear to have served invariably as pedestals for images, never as couches for the monks, as they did in some of the rock-hewn monasteries of the Dekhan and Western India.

Of the remaining apartments on this terrace which were directly connected with this court of cells C, viz. D 1, D 2 and E 1, the last mentioned measures 40 × 42 ft. and was undoubtedly the hall of assembly, being planned in the usual way with four wooden pillars (of which the bases of two only have survived) to support the roof. What was the original purpose of D 1 and D 2 is not certain. In later days the former may well have been used as a refectory and the latter as a kitchen,[1] as corresponding rooms at Jauliāñ were used, but this is hardly likely to have been their purpose when the monastery was first erected at the end of the first century A.D. or thereabouts, since there is no evidence of kitchens and refectories having been built at that early period.

On this terrace, as already indicated, the rock is very near the surface, having been cut away and levelled on the southern side, but somewhat sloping down towards the north. On the east and west there were sharp natural scarps, which, again, were partly cut away to make room for the walls of the courts B and F and of the assembly hall E 2, which belongs to the latter. Both of the courts C and F

Terracing of living rock

[1] This conversion may have taken place when the existing south wall was built in semi-ashlar masonry.

were built of diaper masonry at the same time as the most important of the monuments in the stūpa-court, and both, it need hardly be said, were largely patched up in later days. On the other hand, the quadrangle B was a later construction, built exclusively of semi-ashlar masonry.

Minor antiquities from court C

In this part of the monastery minor antiquities were very rare, the only one, apart from coins, that deserves mention being a small stucco head of the Buddha (height 4·9 in.) with a dark buff slip and traces of red paint on eyes and lips and of black paint on the hair (Kn. 406). The coins from this monastery (all of copper) numbered seventeen and comprised one Hermaeus ('Bust of king and Nike'), one Kadphises II ('Śiva and bull'), one Soter Megas ('Bust of king and horseman'), one Kanishka ('Metal-god'), eight Vāsudeva (four 'Śiva and bull' and four 'Seated goddess'), one Ardashīr-i-Bābegan ('Busts of king and son and fire altar'), four Indo-Sasanian ('Bust of King and fire altar'—thin type). Of these seventeen coins a group of four (Hermaeus, Vasudeva and two Indo-Sasanian) was found in C 13, and a group of two each in D 1 (Vasudeva and Ardashīr), D 2 (Vāsudeva), and D 5 ('Soter Megas and Kanishka'). The rest turned up singly in different parts of the monastery.

Plan of court F

Though not so large as the court B, the court F is a spacious one, measuring 112 ft. north to south by 105 ft. east to west (Pls. 75, *a* and 76, *d*). It was provided with cells on three sides only: the south, west and north. On the east, the ground slopes rapidly away and no doubt it was judged too hazardous to erect cells on the somewhat insecure foundations that had to be built up on this side, and, as it turned out, the hazard proved all too real; for, as the reader will perceive from the plan, half the length of the circuit wall, together with the north-east corner, has collapsed down the hillside, while at the south-east corner it was soon found necessary to erect a massive supporting buttress.

The remains of the four chambers, 25 to 28, north of this buttress have an orientation different from that of the monastery court and evidently belong to an older structure, which was partly demolished to make room for the later monastery. What remained of this structure was filled in, and over the ruins was carried the stepped approach which ascended the hillside from the east and entered the monastery through a small gateway immediately above chamber 26. A few of the steps belonging to this approach still survive on the east side of the buttress 24 (Pl. 77, *d*).

This entrance on the east was only a subsidiary one. The main entrance appears to have been through chamber 2 on the north side, which was the most natural position for it, if the monks were to have direct and convenient communication with the stūpa-court.[1]

Apart from the fact that there are no cells on its east side, the lay-out of the court exhibits no exceptional features. The depression in the centre is approximately 54 ft. each way, but not a true square; the veranda plinth is about 15 ft. 6 in. broad, with its supporting pillars aligned at a distance of about 2 ft. 9 in. from its edge. In the south-west corner of the depression are the remains of the usual

[1] In medieval times this entrance was blocked up, but two of its steps still exist at the back of the chamber.

bathroom with its floor sloping towards the east, where the water was carried off through a drain which passed under the veranda plinth and discharged at the back of chamber 20.

Of the twenty-six chambers ranged about the three sides of the court, no. 2 served, as already stated, as a lobby to the entrance on the northern side; another (no. 9) was the passage-way into the hall of assembly, E2; a third (no. 20), almost directly opposite to the main entrance, was reserved, as shown by the bench round its walls,[1] for use as an image-chapel, and a fourth (no. 15), in the south-east corner, was occupied by a double flight of steps leading to the upper story.

Thus there were left twenty-two cells on the ground-floor for the *bhikshus* to live in, which, added to about twenty-five on the floor above, would make a total of about forty-seven in all. But of those on the ground-floor, no. 12 was subsequently occupied by a small stūpa erected, we may suppose, like the one in the Mohṛā Morādu monastery, to commemorate the residence of some specially revered brother, and probably containing his ashes (Pls. 73, *a* and 79, *a*). In its final form this monument was of a strangely unusual and bizarre character. Originally, it appears to have been an ordinary square stūpa of the orthodox type, adorned with four Corinthian pilasters on each side and provided no doubt with the usual drum and umbrellas. But later on the drum and dome were removed and replaced by a great Corinthian capital, with a double circle of lotus leaves breaking outwards from its base, and with a drum and dome—much reduced in size—on the top of it. This strange creation was constructed partly of kañjūr or terra-cotta, partly of clay, but the clay has been half-burnt to terra-cotta in the fire which destroyed the whole of this group of buildings.

Stūpa in cell 12 of bizarre design

On the floor by the side of the stūpa in the same cell were found two striking portrait heads of burnt clay, one male and one female ('Terra-cottas', ch. 24, nos. 177, 178 and Pl. 137). In all likelihood they represent the donor of the stūpa and his wife, the latter on a much smaller scale than her husband, as she is in the large clay group at Jauliāñ. Both heads are of clay—half-burnt to terra-cotta—and the modelling is executed with an unusually free touch. The male head is 7·9 in. high, the female 4·75 in. high.

Terra-cotta portraits in cell 12

Another noticeable feature in this court is the construction of the party walls between cells 2–5 on the north side. Only the bases of these walls are of solid stone, the upper part being of mud which is now half-converted into terra-cotta. Somewhat similar walls were also unearthed at the monasteries of Pippala and Akhaurī (Chir Tope B), but in those cases the upper part consists of stone boulders or pebbles and mud combined. Here it is entirely of mud. No doubt it was for the sake of economy that mud was used in place of stone, and it is quite likely that many of the other party walls were at first built of the same material and the mud subsequently replaced by stone, as funds became available. The existence of stone plinths of a similar kind in many other monasteries in this neighbourhood as well

Construction of party walls between cells 2–5

[1] The entrance of this chapel extended across its entire width, and two small columns were inserted to support the architrave.

as in Sirkap points to the practice of building walls in this way having been a common one, though in no other instance has the superstructure of mud survived so well as here.

Framing of doorways

Owing to the configuration of the site, which necessitated the western side of court F being built against a steep scarp of rock, there was a deep accumulation of debris on this side, and the ruins beneath were better preserved than usual. Thanks to this circumstance and to the conversion of the mud plaster into terra-cotta we are able to follow quite clearly the construction of the door-frames. The timber of these has, of course, been reduced to charcoal or destroyed by white ants, but from the chases which have survived it appears that there were four vertical beams sometimes connected with cross-pieces to support the heavy lintels, and that the spaces between these beams were filled in with mud or with piles of small stones plastered over with mud. The same method of construction is also to be seen in court B (Pl. 79, *c*). In the absence of relieving arches, which are unknown at Taxila, or of solid stone lintels, strong frameworks of wood were, of course, indispensable to carry the weight of the diaper masonry above.

Minor finds from court F

In front of cell 1 was found a small head of the Buddha in the Gandhāra style (height 4·75 in.), of chloritised mica schist ('Stone Sculptures', ch. 36, no. 163). From the corner cell no. 7 came a number of objects associated with Buddhist worship, viz. several copper-gilt bell-handles (Kn. 332, 347, 354), two copper bowl-shaped umbrellas, one of them gilt (Kn. 343), a copper *triratna* ornament ('Copper and Bronze Objects', ch. 28, no. 405), a lotus (Kn. 335), and a copper coin of Kanishka ('Śiva with trident'); but none of these articles is of particular value in itself. The adjoining cell, no. 8, contained the head of a bracket figure of phyllite with elaborate head-dress and snake-hood behind, of the type figured in Pl. 213, no. 16, and a hoard of copper coins. The latter comprised one issue of Soter Megas ('Bust of king and horseman') and 117 of Vāsudeva, viz. 91 of the 'Śiva and bull' type and 26 of the 'Seated goddess' type. Evidently this hoard had been hidden, during the reign of Vāsudeva, in a hole in the wall, probably above the doorway, and had remained there for the best part of three centuries until the wall itself collapsed during the wholesale destruction of the monastery. Four other small groups of coins were found in cells 12, 16, 22 and 23. The first comprised one Azes I ('King seated and Hermes'), and three Vāsudeva. The second, two Soter Megas ('Bust of king and horseman'), one Kanishka ('Moon-god') and two Vāsudeva ('Seated goddess'). The third, seven Vāsudeva ('Śiva and bull'). The fourth, one Kadphises I and two Kanishka ('Sun-god'). Five other coins found singly in court 5 included one Soter Megas (same type as above), one Kanishka ('Metal-god'), two Vāsudeva (same types) and one Later Kushān ('King at altar' and defaced).

Assembly hall E2

The assembly hall E2 calls for no remark except that it is contemporary with the quadrangle F, to which it is attached, and that its diaper walls were subsequently patched up in various places, but not during the latest period when semi-ashlar masonry was in vogue.

Plan of court B

From court F we have now to retrace our steps through the court of stūpas to the third court of cells B, the entrance to which is in the south-west corner of the latter court, just below chapel A26. This is one of the largest monastery courts at Taxila, measuring, over all, 131 ft. on its southern side by about 133 ft. on the other three sides, the lay-out, like that of the other courts, being not quite regular. On

the east side it abuts against the western retaining wall of court C, and on the north against the south side of chapel A31, the diaper walls of which are in both cases easily distinguishable from the semi-ashlar with which the new court and its cells were faced, as well as from the rougher masonry of boulders and mud which is used for some of the interior walls. On the eastern and southern sides, where the lines of cells had the protection of the higher ground at their back, the ruins are well preserved, standing in places to a height of some 12 ft. and more. On the west side and on half of the north side, where the ground outside shelves rapidly away, all the superstructure has gone and only the foundations remain (Pl. 75, *b*). So far as its plan and architectural features are concerned, there is little to be noticed in this court, which was designed on strictly orthodox lines, with cells on all four sides screened by a veranda, and with the usual bathroom on a stone plinth in the south-west corner of the central depression. The masonry, which is typical of fourth to fifth century work, is for the most part semi-ashlar, but many of the interior cell walls are constructed for economy's sake of mud and boulders, like those in the Pippala monastery, not of mud alone, like those in court F. All were, of course, plastered over and white- or colour-washed. The plaster, made of mud and chopped straw, may still be seen adhering to many of the walls on the east side. The main entrance, as already noted, was through the chamber A29 at the north-west corner, but besides this entrance it is not unlikely that the stairway in chamber 11, which gave access to the upper story, may have led to an exit on the higher ground at the back of the monastery and thus communicated with court C, at the adjoining corner of which there was another staircase. Chamber 3 on the south side evidently served, like chamber 2 in court C, as a strong-room, only here the interior is circular in plan (diam. 6 ft.) and paved with stone flags. From cell 5 to cell 10, inclusive, the back wall on the south was exceptionally thick, for the reason no doubt that greater resistance was needed at this point to hold up the detritus on the hillside. In cells 9 and 12 the floor-level is raised about 1 ft. 6 in. above the veranda plinth, and two steps are provided—in the case of the former cell, outside, and in the case of the latter, inside the doorway. In cell 18 there is a short length of wall inside the door to screen the inmate from observation. In earlier times, when the habitations of the *bhikshus* were exposed to the public gaze, such a screen had been common, as we learn from the *Mahāvagga*, where the use of screens is specifically allowed by the Master; but when monasteries came to be built on the quadrangular plan, with all the cells facing inward on to a courtyard, privacy was automatically secured and screens such as this usually became superfluous.

If, however, this court adds little to our knowledge of monastic architecture, a group of sculptures unearthed in it more than compensates for the cost and labour of digging (Pls. 77, *a*, 78, and 137, *c–f*). This group was found in the small image-chapel no. 20, built out in front of chamber 21, which, like no. 3, appears to have been used as a strong-room and entered by a trap-door from above. The group comprises some of the most remarkable and instructive sculptures in India. In the centre was a figure of the Buddha seated in the *abhaya-mudrā*, with two figures — Group of sculptures in chapel 20

standing on his right and three on his left, making a group of six figures in all. Of the six, four were made of clay throughout, which luckily has been half-burnt to terra-cotta; in the other two figures, viz. the Buddha in the centre and the Bodhisattva standing on his right hand, the bodies were of clay but the heads of true terra-cotta intentionally fired in a kiln. Unluckily, the breasts and shoulders of three of the figures have perished irretrievably, but five of the heads were found lying in the debris and are in an excellent state of preservation (Pl. 137, *c–f*). The Buddha in the centre is seated on a low throne (*siṁhāsana*), the face of which is adorned at each end with a square medallion bearing the 'dot-and-comma' pattern and a highly stylised lion's foot below. Head and body alike are in the strictly conventional style of the period, with every detail worked out according to orthodox precedent, but the modelling of the face (Pl. 137, *d*) exhibits a grace and delicacy that are rarely found in heads of such large proportions (the head, including the *ushṇīsha*, is 18·1 in. high), and the treatment of the drapery and of the form showing beneath its folds betray the true touch of the artist. Of the attendant figures, the one in front on the Buddha's right, clad in *dhotī* and shawl and distinguished by a highly ornate head-dress, is a Bodhisattva (Pl. 137, *c* and Frontispiece to Vol. 2). Opposite to the Bodhisattva are two smaller figures, whose raiment and shaven heads proclaim them to be monks (Pl. 137, *f*). At the back and each side of the Buddha are *devas* bringing offerings or doing homage to the Buddha. One only of the heads of these *devas* has survived (Pl. 137, *e*).

Four types portrayed

We thus have, in this group, four types portrayed: the Buddha, the Bodhisattva, the *deva* and the *bhikshu*; and inasmuch as the whole group is evidently the work of one hand, it affords us an excellent opportunity of comparing these four types and observing the essential differences which the artist has been at pains to bring out between them. In modelling the Buddha head he has, of course, been under the rigid constraint of tradition, and to a large extent with the help of that tradition he has given us a clear presentment of his ideal. To him, as to all his co-religionists, the Buddha was a remote, intangible figure, who had withdrawn himself beyond the sphere of this world and beyond all human imagination. The only way to portray that figure was by following established precedent and reproducing a type which in its general lines had long since become immutably fixed. Any attempt to depart from or to modify that type would have been an impiety. The utmost that the artist could do was to introduce into it such refinement of features or delicacy of workmanship as were possible without transgressing the accepted rules; and this he has done with eminent success, fashioning for us a head which strictly obeys convention and is symmetrically perfect in every detail, but which nevertheless attains a degree of sublimity and gentleness of expression such as is rarely to be seen in heads of this class.

The Buddha

The Bodhisattva

Now turn to the Bodhisattva head of Pl. 137, *c*,[1] and mark the difference between the two heads. The sculptor is no longer bound to the same extent by rule and precedent. He can let his own imagination have play. Nor are the Bodhisattvas

[1] See also frontispiece to Vol. II.

remote and inaccessible beings like the Buddha. They are still relatively near to this world, presiding over the destinies of man, ready to hear his prayers, to help in his sufferings; and there is nothing, therefore, against depicting them, as the *devas* themselves are depicted, with ordinary mortal features. In this head, it is sorrow and compassion that the artist has sought above all to express, and in the whole range of Buddhist sculptures it would be difficult to point to another head in which these emotions are more convincingly brought out. Surely no one gazing at the pathos and compassion written in this countenance can fail to be conscious of the close relationship that exists between the cult of the Bodhisattvas and Christianity in their relation to human suffering.

The *deva*

The feeling and sensitiveness and the mastery over his material that the sculptor has shown in the modelling of this head are equally characteristic of the *deva* head reproduced in Pl. 137, *e*. The figure to which this third head belongs is one of the celestial beings—angels we may call them—who frequently appear in reliefs of this period descending from heaven and offering homage and gifts of flowers to the Buddha. In this case the *deva* has his right hand raised to the level of his shoulder, with thumb and forefinger touching one another, and no doubt the head was bowed a little forward, though not perhaps so much as in some other reliefs where the *devas* are looking down from above on the Buddha. One remarkable feature that distinguishes the *devas* of the Indo-Afghān School is their thick and heavy eyelids, and in this particular image the sculptor of the Kālawān head has necessarily had to follow tradition; but he has followed it in such a way as not to impair the beauty of the face. For the rest, the head represents the artist's own ideal of beauty. Among Indian sculptures its type is unique. Inspiration for it may possibly have been found in some Greek head of Apollo, but even granted that such a model may have existed at Taxila in the fifth century A.D., the style and workmanship of this head are much too fresh and forceful for us to suppose that it was merely a copy of an older original; and let it be remarked too that, although this type is so different from the other three types—Buddha, Bodhisattva and monk—which belong to the same group, there is the same characteristic subtlety and sensitiveness running through the modelling of all four, proving beyond question that their author was no mere imitator, but an artist of exceptional imagination and ability. What angels are to the Christian, *devas* are to the Buddhist —beings of radiant and surpassing beauty. Whatever else they may be, beauty of form and feature is their outstanding attribute, and in fashioning this one the artist has given us the highest type of Āryan manhood of which he was cognisant. In doing this he to some extent departed from tradition; for, like the Christian angels of the Renaissance, Buddhist *devas* were usually of indeterminate sex; at least it is very difficult to say of them whether they are meant to be male or female. But this particular *deva* is essentially and undeniably masculine. That the artist made use of living models for this, as well as for the Bodhisattva and the monk, is highly probable; but whether he did so or not, there is a degree of idealism in this work that precludes us from regarding it as a simple portrait.

The monk

The fourth type is that of the shaven monk (Pl. 137, *f*), of which there are two examples in the group (nos. 174 and 174, *a*). The type is identical with that of the high-caste Brāhman, which occurs so often among Buddhist sculptures and paintings of early and medieval times, but the characterisation of the features in these two heads and their marked individuality suggest that they were probably portraits of two of the brethren in the Kālawān *saṅghārāma*.

All these heads were covered, it need hardly be said, with a coating of fine plaster and finished, like the stucco heads, with colours or gilding. In no. 174 there still remains the charred residue of the wooden peg by which it was made secure to the body.

Other minor finds from court B

In the store-room no. 21, at the back of the sculptured group described above, were found five coins and a vessel-lid of copper with a finial-like handle (Pl. 80, *h*), as well as a bowl-shaped bell of the same material with a ring-handle and traces of gilt on its surface (Pl. 80, *j*). The five coins were all copper issues of Kanishka, viz. one 'Śiva with trident' type, one 'Metal-god', two 'Sun-god', and one 'Moon-god'. In front of cell 28 was a piece of Gandhāra sculpture ('Stone Sculptures', ch. 36, no. 19)—a bracket of phyllite stone in the form of a winged bull carrying a rider, erect with folded hands; and inside the same cell two coins, one of Kanishka ('Moon-god' type) and one of Vāsudeva ('Śiva and bull'). In cell 15, again, were two coins of Vāsudeva ('Seated goddess') and another phyllite sculpture of the Gandhāra school ('Stone Sculptures', no. 119), which evidently depicts the First Sermon in the Deer Park at Sārnāth. An unusual feature of this relief is that the Buddha is represented as turning not one, but three small wheels supported on the three prongs of a *triratna* emblem carved on the face of his throne.

Including the nine coins noticed above, twenty coins in all were recovered from court B. Of the remaining eleven, one from cell 20 was of Kanishka ('Sun-god'), one from cell 16 of Huvishka ('King on elephant and standing deity'), seven from cells 7, 9, 14, 17 and 18 of Vāsudeva ('Śiva and bull'), and one from cell 3 of the same king ('Seated goddess'). One from cell 5 was a Later Kushān issue ('King at altar' and defaced), and one from cell 7 of Hormazd II ('Bearded bust of king and fire altar').

Remains on lower and upper terraces G1–G9

We have now completed our description of all monuments on the middle terrace and may turn to the few remaining ones on the smaller terraces above and below. The latter, marked G 1–G 9 in the plan, consists only of the dilapidated remains of a square chamber, G 1—possibly an assembly hall—with the foundations of four cells on its north side and a few other broken walls further to the north. They need not, therefore, detain us, particularly as no small antiquities were found among them. The ruins on the upper terrace H, on the other hand, form an interesting and tolerably well-preserved group, comprising a small compact monastery with a square stūpa on its western side and the remains of some chapels or other structures beyond (Pls. 73, *b*, 76, *b* and 79, *d*). The monastery and stūpa are built of late diaper; the chapels of semi-ashlar masonry. The stūpa-court, as will be seen from the plan (Pl. 73, *b*), is irregular in shape owing to the natural formation of the terrace, and for the same reason the stūpa in its centre has a different orientation from the monastery. On the south side of the court, along the compound wall, is a shallow plinth, about 10 ft. in width, which on the west

Monastery and stūpa H

side in front of the chapels 4 and 5 is reduced to a narrow strip only, with a small square projection (5 ft. 9 in. each way) near the south-east corner of no. 4. The stūpa is square in plan, measuring 19 ft. each way, with projecting steps on the north. Its base, which is preserved to a height of 3 ft. 6 in. only, was relieved with the usual mouldings and pilasters, five of the latter on each side, worked out in kañjūr stone.

The monastery was a strongly built structure, and, in spite of its exposed position, the ruins when excavated were still standing to a height of some 10 ft. (Pl. 79, *d*). Its plan is exceptional; for, in place of the usual open court in the centre, there is a large square hall (no. 9), and in order to admit light and air to the interior, the passages between this chamber and the cells (8, 8 in the plan) were prolonged as far as the outer walls, and tall windows[1] contrived in the walls at both ends. By this arrangement eleven cells, as well as a central hall, were provided on the ground-floor and probably a larger number above, since the upper floor would get all the light and air it required from the open court in its centre, which would not, presumably, be roofed in; and thus the spaces occupied by the window passages on the ground-floor would have been available for cells on the upper floor.

The entrance vestibule (7), which also contains the staircase ascending to the upper story, opens on to the stūpa-court on the west side of the building. Directly opposite to it, on the other side of passage 8, is a large window with splayed jambs through which the light from the entrance could be admitted into the central hall.

The doorway of the hall was on its north side, not in the centre but pushed a little to the east of it, in order, perhaps, that the wall might not be weakened at the centre, where the weight of the roof beams would be greatest. To secure as much light as possible, the windows at the ends of the passages were placed at a height of about 4 ft. only above the floor, not 8 to 11 ft., as they invariably were in the cells; and the better to diffuse the light, they were provided with sills that slope downwards on the inside. The width of these windows is about 3 ft. 3 in. on the inner side; their height is not known, as none of them is completely preserved.

Minor antiquities from site II

The minor antiquities from this site were few. In the small chapel no. 6, in the stūpa-court, was found a length of frieze of phyllite stone in the Gandhāra style, decorated with four ogee arches resting on Corinthian pilasters. In one of the arched bays is a seated figure of the Buddha in the attitude of meditation; in the others are standing figures in various poses, while resting on the tops of the arches are pairs of birds ('Stone Sculptures', ch. 36, no. 76). From the passage-way 26 came a coin of Vāsudeva ('Śiva and bull') and six beads, viz. three spherical (one of blue glass and two of carnelian), one hexagon barrel of crystal, one round tabular of lapis-lazuli, and one five-sided of black glass (Kn. '32-240). One Vāsudeva coin ('Seated goddess') and one Later Kushān were found together in cell 25; one Kanishka ('Nanaia') in the debris of the stūpa; and two Vāsudeva ('Śiva and bull') in chambers 3 and 10.

[1] By an error these windows have not been shown in the plan.

Chapter 15. GIRI

Situation of *saṅghārāmas* and fortress

ABOUT a mile and a half, as one goes eastward, from Kālawān two villages can be seen nestling into the hillside at the foot of the Mārgala spur. They are known as Khurram Prāchā and Khurram Gujar. Between them a rocky defile through the hills leads to a small secluded valley and thence by way of a rough torrent bed to the glen of Giri, where there is a perennial spring of excellent water and, near by, a Ziārat (Pl. 81). Above this glen the hills of the Mārgala spur rise some 1,500 ft. on the south, but not more than 400 to 500 ft. on the other sides. Such a spot, shut off from the world, protected from the winds and provided with an ample supply of running water, must have been irresistibly attractive to the Buddhists, and it was no surprise to me, therefore, to find there the ruins of two considerable groups of their stūpas and monasteries—one on a terrace immediately above the spring, the other on the lower ground a couple of furlongs to the west. These Buddhist settlements, however, are not the only remains that invest this spot with interest. On the south side of the valley and between it and the glen of Giri is a rocky hill over 500 yards in length from east to west by half as much from north to south, which is detached from the main spur by a steeply scarped nālā on the west, a more open depression on the south and a shallow saddle on the east, while on the north are steep bluffs alternating with more gently sloping bays. This naturally strong position was further strengthened in old days by a bastioned wall, of which a considerable section, some 550 yards in length, can still be seen in a ruined condition at its eastern end, while other short sections are traceable here and there over the western half of the hill-top. Along the south side the wall is between 10 and 11 ft. in thickness and faced with a late type of semi-ashlar masonry. Not far from the south-east corner is a narrow gateway. The bastions, which are semi-circular in plan, are placed at regular intervals along the curtain of the wall, and also at the salient and re-entrant angles. In front of the curtain is a plinth intended probably to protect the base of the wall against undermining. Of the fortifications on the opposite hill to the south only a short section is now traceable. They are clearly defined at the point where they cross the nālā and for a space of about 180 ft. beyond, where they turn eastward around the shoulder of the hill, but from there onwards their alignment is uncertain. One thing, however, is clear, namely, that they must have embraced within their circuit the all-important spring of water higher up the nālā towards the west, and it is not unlikely that they also took in the monastery area A–B. Inside these fortifications the hill-top is rugged and uneven to a degree, and for the most part so denuded of earth that it is improbable that excavations would throw any appreciable light on the history of the place. The remains of dwellings and other structures are everywhere in evidence, but potsherds and the like are not in such quantities as might be

Description of fortress

expected, if this stronghold had been in occupation for any length of time. For these reasons, coupled with the remoteness of the spot, I infer that the stronghold was intended as a place of refuge in times of need, and I surmise further that it was built especially for the protection of the large bodies of Buddhist monks living at the Dharmarājikā and neighbouring monasteries. In the Khurram valley alone more than a score of these monasteries are still traceable on mounds round about the Dharmarājikā Stūpa or farther to the east; and there were many more on the ridges to the north and south. Indeed, it is quite likely that the Giri stronghold would be used also by refugees from the many monasteries on the further slope of the Hathiāl spur, including Jauliāñ and Mohṛā Morādu, who on the occasion of hostile invasions might easily have found themselves cut off from the city of Sirsukh. In the fifth century A.D., from which time this stronghold appears to date, the whole body of monks in the environs of Taxila must have run into many thousands, and even assuming that they could have taken refuge inside the city, they may have had strong reasons for preferring to defend themselves in a fastness such as that of Giri, which might well escape the full force of the attack and from which in any case they could on occasion beat a retreat into the higher hills of the Murree range. Towards the close of the fifth century the Buddhists especially must have been hard put to it to escape the fury of the White Huns, who were then over-running the North-West of India, and I regard this stronghold of Giri as a striking demonstration of the imminent dangers to which they were then exposed. A refuge for the scattered bodies of Buddhist monks

To return, however, to the two groups of monastic buildings at Giri (Pl. 82, *a–c*). The larger of the two (A–B), which, as stated above, stands on a projecting terrace just above the spring, covers an area of 120 yards from north to south by 60 yards from east to west. To the north is a large stūpa (A); to the south, a monastery (B) with some twenty apartments on the ground-floor; and in the space between them a complex of buildings which have only been partially excavated but which may be assumed to have belonged to a chapel-court. The stūpa, which measures 62 ft. square and rises to a height of about 15 ft., is in a very dilapidated condition. Its core, as usual, is of heavy rubble and its facing of kañjūr stone finished off in plaster, the paving of the lowest tier being of local limestone slabs. All that is now left of the basement consists of a low plinth relieved by a line of dwarf Corinthian pilasters and a higher tier above it, which is also divided into panels by a series of pilasters set on a heavily moulded base. The plinth, which is no more than 1 ft. 6 in. in height, is disproportionately small for so imposing an edifice. From the fact that no fragments of stucco reliefs were found in the debris round the stūpa, it may be inferred that its walls were devoid of such decorations. *Saṅghārāma* A–B; Stūpa A

The monastery B (Pl. 84, *b*), which is exceptionally well preserved, especially on its southern side, is of semi-ashlar masonry, and so far as the main court is concerned, planned on the usual lines. Ranged about the four sides of this court are eighteen cells, some of which are provided with wall niches; in the middle of the northern side is an entrance vestibule (3), and in the southern a passage leading to what are presumably the kitchen and dining-rooms, as well as to the Monastery B

stairs by which the upper floor was reached. The disposition of this part of the monastery is unusual and interesting. In other contemporary monasteries, like those of Jauliāñ and Mohrā Morādu, there was, in addition to the court of the cells, a hall of assembly, a kitchen (generally with a scullery and store-room attached) and a refectory. Now, in planning this monastery at Giri difficulties were experienced owing to the constricted area and uneven character of the rocky ground. Thus, at the back of the three cells numbered 10, 11 and 12 on the plan, where the hall of assembly ought naturally to have been placed, there is an outcrop of rock which it would have taken immense labour to remove. To get over the difficulty, this outcrop appears to have been levelled up to the height of the first floor and the hall of assembly built on its top at the level of the first floor; and in order to provide direct access to this hall as well as to the upper story cells, a stairway was constructed on the east side of the passage alluded to above. This at any rate seems to me the obvious explanation of the levelling that has been done to the outcrop and of the other exceptional features of the plan, though in the absence of any actual remains of the assembly hall, my explanation is not to be regarded as conclusive. The passage itself was roofed by means of a corbelled vault, two courses of which are still in place, and received light and air through a window at the southern end. In its west side is a doorway with its corbelled arch intact, through which the group of rooms comprising the kitchen and refectory were reached. The room which I take to have been the refectory is unduly small but would have sufficed to seat between twenty and thirty monks. The other two rooms resemble ordinary cells rather than a kitchen and scullery. Their position, however, is where we should naturally expect the kitchen to be, and I incline to think that despite their size this must have been their purpose. The passage on their north side leads to a small side entrance like the one in the kitchen quarters of the monastery at Jauliāñ. Its stone jambs are still partially preserved.

Difficulties of planning owing to uneven nature of rocky ground

Of the complex of structures between the stūpa-court and the monastery the plan has yet to be determined; up to the present only a part of it has been cleared. Meanwhile, however, it may be remarked that the building M stands on the lower level of the stūpa-court, with a terrace over 6 ft. high abutting against its outer face on the east and south; and the windows, therefore, in the outer wall of the narrow passage K, K had to be placed high enough to be above the level of this terrace. For the moment it looks as if this passage may have been a *pradakshiṇā*, somewhat similar to that in the apsidal temple in Sirkap. The semicircular buttress which half obstructs it at the south-east corner, has evidently been added at a later date, to save the inner wall from collapse. Let me add, also, that the two walls N, N, which are buried beneath the level of the higher terrace on the east, appear to have belonged to an earlier structure which had fallen to ruin and been partially dismantled before the terrace was constructed.

Complex of structures between stūpa-court and monastery

The minor objects recovered from this group are of little interest. They comprise a sickle ('Iron Objects', ch. 27, no. 206), iron nails, fish-plates, hinges, arrow-heads, needles, copper rings, handles of bells, antimony-rods, plain glass and bone bangles, beads and coins. Only

Minor antiquities from A-B

two beads were found, both in cell 2 of monastery B. One is a spherical carnelian, the other an oblate marble bead. The coins numbered twenty-six, but thirteen of them were too defaced to be identified. The others included: one Local Taxilan ('Tree and various marks'), one Kadphises I ('Bust of Hermaeus and Heracles'), ten Sasanian ('Bust of king and fire altar'), and one debased Indo-Sasanian(?) (crude standing figure and three parallel lines—R.U.C. ch. 39, no. 343). Of these the Kadphises coin and one Sasanian were found in cell 1 of the monastery, three Sasanian in other cells, and the remainder in the debris of the stūpa or between it and the monastery.

Saṅghārāma C, D, E

The other monastic settlement (C, D, E) is set on a raised terrace at the western end of the glen, with the hillside sloping steeply down to it on the west and a torrent bed skirting it on the south and east (Pls. 82, *b*, 83, 84, *a* and 85)—a position that has proved anything but favourable to the preservation of the buildings, since the torrent has shorn away a large part of the eastern side of the site, and floods sweeping down the hillside have cut across the stūpa-court.

Masonry and design of main stūpa

Unlike the larger monastery described above, this one is constructed largely of diaper masonry of the Parthian or Early Kushān period, but has undergone extensive reconstruction in semi-ashlar masonry of a late type. Of the main stūpa, which stands on the northern side of the monastery, less than a quarter is now standing, the other three-quarters having been washed away by floods (Pl. 83, *a*). From the little that remains, however, it is evident that its plinth was a square of about 60 ft. each way, with an ascending flight of steps in the middle of the northern side. Each face is relieved by a line of Corinthian pilasters standing on a moulded base and finished with plaster reliefs. The pilasters, cornice and base are of kañjūr stone, the panels between of limestone diaper masonry repaired in semi-ashlar, and the core of rubble. A large number of the plaster reliefs, in more or less broken and fragmentary condition, were found lying at the foot of the stūpa on its western side. In style, they approximate to the later sculptures from Jauliāñ and Mohṛā Morādu and evidently belong to the period of the later reconstruction.

Stucco reliefs on main stūpa

Among them was a colossal head of a Buddha image, which lay between the subsidiary structures 2 and 3 on the west side, and a colossal hand, possibly belonging to the same image, which was only a few feet away in front of the third bay from the north-west corner. A third figure, when first excavated, looked like some caricature; for the head of a life-size image, which adorned the drum of the stūpa, had slipped into an almost natural position on the body of a much smaller one, and gave it a singularly grotesque appearance (Pl. 85, *a*). Other examples of sculptures belonging to this monument are figured in Pl. 161, *l* and *n* ('Stucco Sculptures', ch. 26, nos. 97 and 98) and in my *Report* for 1927–8, Pl. XIX, figs. 3 and 4. Of the latter, fig. 3 (height 33 in.) exhibits traces of yellow paint on the face and of red paint on the eye-brows, eyes and moustache; fig. 4 (height 7⅞ in.) shows traces of black paint on eyebrows and red on lips.

Subsidiary stūpas

Parallel with the west and north sides of the main stūpa, at the north-west corner, is a row of subsidiary structures numbered from 1 to 8 in the plan. Of these, nos. 1, 3, 5, 6, 7 and 8 are small votive stūpas of the customary type resembling those at Jauliāñ and, like them, decorated with tiers of lions and Atlantes or with Corinthian pilasters alternating with niches, in which figures of the Buddha and attendants are usually portrayed. All, however, were in a sorry state of dilapidation

and not worth conserving *in situ*. The other two structures, nos. 2 and 4, are mere platforms, oblong in shape and devoid of ornament; they are clearly not stūpas, though what purpose they served is not clear.

Remains outside stupa-court

Outside the limit of the stūpa-court on the west are some remains of structures of small diaper masonry, but they have suffered so much from the detritus washed down the steep hill slopes that they would now hardly repay excavation. Against the wall on the south side of the court was a row of chambers, four towards the eastern end and one at the western. In the space between them, patches of lime plaster painted red were found still adhering to the wall of the court at R, and a few heads and other fragments of stucco figures were unearthed in the corner at the point S. All the chambers on this side of the court are raised on plinths about 2 ft. 3 in. high, and with the exception of the third from the eastern end, which served as an entrance portico to the monastery, were undoubtedly image-chapels.

Court of cells D

The first court of cells D is a small one, comprising a vestibule and eight cells ranged on the north, west and east sides only. This accommodation, however, was augmented by the addition of two other courts further to the south, with nine or more extra cells; so that, allowing for a double story in each group, some forty monks in all could have been housed there. In court D the central depression—the only part open to the sky—was unusually small, measuring no more than 16 × 12 ft. At its south-east corner is the usual drain for carrying off the roof-water. On the west side of this court the cells are still standing to a height of 9 ft. They are provided with small windows set high in the back wall, the sills of which slope downwards to the inside, and with the customary corbelled wall niches. Communicating between courts D and E is a passage-way (5) nearly 9 ft. in width, from which a flight of steps ascends to the first floor and which also gives access to two large rooms, one of which was almost certainly the hall of assembly. The other may possibly have served as a refectory, but inasmuch as there was no kitchen adjoining, it is more likely to have been a common room. As evidenced by its diaper masonry, this monastery dates back to Parthian or Early Kushān times, when the monks were accustomed to beg and eat their food in the city, and when no kitchen accommodation was, therefore, provided. In the case of Jauliāñ and other monasteries, which also go back to the Early Kushān period, kitchens and sculleries were added at a later date, and it is probable that similar additions were made here at Giri. If so, they may be situated in the as yet unexcavated area to the west of the second or third court of cells.

Other minor antiquities

Besides the stucco reliefs from the stūpa-court referred to above, the minor antiquities recovered from this site included the following:

Stone Sculptures. Ch. 36, no. 113, a very striking relief of phyllite depicting Buddha seated in the Indraśaila cave, and *devas* descending from above to shower flowers on his head. The composition, pose and modelling of the *devas* are exceptionally happy and rank this relief among the finest of the Gandhāra sculptures from Taxila. Gr. '27–109, from monastery D, room 2 (Pl. 219, no. 113).

Jewellery. Ch. 30, no. 169, gold ornament (? clasp) set with four garnets *en cabochon*, from monastery D, room 7.

Iron Objects. Ch. 27, no. 23, spoon with long handle and clip, from west of stūpa C (Pl. 162, *u*); no. 134, bow-legged tweezers, from D 10 (Pl. 167, no. 134); nos. 209 and 210, needles, from D and E (Pl. 170, *b*, and *c*).

Copper and Bronze. Ch. 28, no. 409, copper lotus, from D 5. Cf. Pl. 178, *j*.

Seals. Ch. 34, no. 26, *a*, oval seal of copper, with legend in Gupta Brahmi [*Kha*]*ru*[*pa*]*dasya*.

Miscellaneous. Other miscellaneous articles that need not be described in detail, comprised a spear-head and arrow-head, fish-plates, rings and hammers of iron; a miniature casket, antimony-rods, pipal leaves and rosettes of copper, and bangles of shell, copper and glass.

Coins. The coins recovered in this monastery numbered 309, but many of them are much worn and some quite illegible. Two are of silver and two of billon, as noted below; the rest of copper. They comprise two Local Taxilan ('Tree and various marks') from C debris and D 11; one Azes II ('King on horseback and Zeus standing'), D 5; two Azes II and Aśpavarma ('King on horseback and Pallas') from C debris and D 5; five Soter Megas ('Bust of king and horseman') C debris and D 4, 7 and 10; two Kadphises I ('Bust of Hermaeus and Heracles') C debris and D 7; one Kadphises II ('King at altar and Śiva and bull'), E 6; one Kanishka ('King at altar and standing deity' = R.U.C. ch. 39, no. 262), C debris; two Huvishka ('King on elephant and Sun-god' and 'King seated and Moon-god' = *ibid.* nos. 263, 265), C debris and E outside; three Vasudeva (two 'Śiva and bull'; one 'Seated goddess'), C debris, D 12 and E outside; two silver Sasanian of Shapur III (R.U.C. no. 283) and two billon of Varahran IV (= R.U.C. nos. 286, 287), C debris and D 8; 113 copper Sasanian ('Bust of king and fire altar' = R.U.C. no. 297), eighty-six from C debris, twenty-seven from various rooms in D and E or from debris; six (?) Hormizd ('Bust of king and fire altar' = R.U.C. nos. 291, 292), three from C debris, one from D 7, two from E 9; one Shapur III ('Bust of king' and indistinct), C debris; two debased Indo-Sasanian ('Standing figure and square in circle' = cf. R.U.C. nos. 344–6), D 12 and C debris; four ditto ('Standing figure and three parallel lines'; cf. R.U.C. no. 343), D 3 and C debris; one uncertain ('Bearded bust' and uncertain object), D outer wall.

A fact that these coins bring out very clearly is that at the time when this monastery was destroyed, an extraordinary variety of coins—some issued several centuries before—must have been still current in this part of India. It is also interesting to note what a large number of these coins (103 in all) were found in the debris of stūpa C and of the small stūpas at its side. The only explanation I can offer of this phenomenon is that one or more small hoards were hidden in the masonry of the stūpas, just as they were found hidden at the Dharmarājikā Stūpa, and when the stūpas were destroyed or fell to pieces, the coins became dispersed among the fallen debris.

Chapter 16. STŪPAS OF KUNĀLA AND GHAI

Famous monuments near Taxila described by Hsüan Tsang

AT THE time when Hsüan Tsang visited Taxila, the city of Sirkap had been deserted for more than five centuries and its ramparts and buildings must long have been in ruins. The city in which the pilgrim himself sojourned is the city now known as Sirsukh, where numerous structures of the early medieval period are still traceable. In the neighbourhood of this city there were four famous Buddhist monuments which the pilgrim described. One of these was the tank of Elāpatra, the Dragon King; another was a stūpa which marked the spot where, according to the Buddha's prediction, one of the four Great Treasures will be revealed when Maitreya appears as Buddha;[1] a third was the stūpa of the 'sacrificed head' said to have been built by Aśoka and situated at a distance of 12 or 13 *li* to the north of the capital; the fourth was a stūpa, also said to have been built by Aśoka to commemorate the spot where his son Kunāla had had his eyes put out. The first and second of these monuments were, I believe, rightly identified by Cunningham—the one with the sacred tank now known as the Pañjā Sāhib at Hasan Abdāl, the other with a ruined stūpa which crowns the ridge above Baoti Piṇd. As to the other two, Cunningham laboured under the false idea that the city which Hsüan Tsang visited was the city on the Bhir Mound instead of in Sirsukh, and he could not, therefore, but fail to identify the location of the two stūpas. Now that we know that the earliest city of Taxila was on the Bhir Mound and the latest in Sirsukh, it is clear that the stūpa of the 'sacrificed head' is none other than the Bhallar stūpa which occupies a commanding position on the extreme western spur of the Sarda hill, and it is probable that the memorial of Kunāla's misfortune is a stūpa which occupies a hardly inferior position on the northern slopes of Hathiāl, commanding a splendid view of the lower city of Sirkap and of the whole of the Haro valley (Pl. 87, *a*). Hsüan Tsang describes this stūpa as being above 100 ft. high and situated to the south-east of the city of Takshaśilā on the north side of the south hill. The blind, he says, came here to pray, and many had their prayers answered by the restoration of their sight.[2] He then proceeds to narrate the story of Kunāla; of how his stepmother Tishyarakshitā fell in love with him but was repulsed; of how she induced Aśoka to send the prince as viceroy to Takshaśilā, and then wrote a dispatch in her husband's name and sealed it with the seal of his teeth while he slept, bringing accusations against Kunāla and ordering his eyes to be put out; of how the ministers shrank from executing the order, but

Kunāla stūpa

Story of Kunāla

[1] The four Great Treasures referred to are those of Elāpatra in Gandhāra, Pāṇḍuka in Mithilā, Piṅgala in Kaliṅga, and Śaṅka in the Kāśi (Benares) country. See T. Watters, *On Yuan Chang*, I, p. 243.

[2] Cf. T. Watters, *op. cit.* I, pp. 245 *sqq*.

the prince himself insisted on obedience to his father; of how he then wandered forth with his wife and begged his way to the far-off capital of his father; of how his father recognised him by his voice and the strains of his lute; and of how the cruel and vindictive queen was put to death and the prince's eyesight restored at Bodh-Gayā through the help of the Buddhist Arhat Ghosha.[1]

Position of stūpa

The southern hill referred to by Hsüan Tsang can only be the hill of Hathiāl, which bounds the Haro valley on the south; and the most conspicuous stūpa on its northern side is one on the northernmost ridge erected almost directly over the remains of the old wall of Sirkap, though, if the direction indicated in Hsüan Tsang's text is correct, we ought to look for the stūpa of Kunāla in the neighbourhood of Mohṛā Morādu rather than of Sirkap. In proposing to identify it with the great stūpa built over the eastern fortifications of the latter city, I have taken into consideration the imposing dimensions and very striking situation of this monument, coupled with the fact that the directions given by Hsüan Tsang with reference to the points of the compass have been proved in countless instances to be faulty.

Character of remains misunderstood by Cunningham

At the time when Cunningham saw this stūpa in 1862, it appeared to be nothing more than a heap of debris, and was thought by him to be one of the old watch-towers of the wall; while the big monastery alongside, which was seemingly no better preserved, was taken for a guard house. Neither explanation, however, appeared to me satisfactory; nor, in view of the many massive blocks of limestone lying among the debris, could I agree with my predecessor in supposing that the two structures were contemporary with the city walls, which are constructed throughout of the small rubble masonry used in the Greek and Śaka periods. It was with no feeling of surprise, therefore, that, when I came to excavate the two structures, I found that they were a stūpa and a monastery built in late semi-ashlar masonry, and that, so far from being contemporary with the city wall, they had been erected partly on its ruins some two centuries at least after it had fallen to decay.

Design of stūpa

The design of the stūpa, so far as it has been preserved, will be clear to the reader from the drawings and photographs on Pls. 86–8. It rested on a lofty rectangular

[1] Cf. also *Divyāvadāna*, XXVII, pp. 407–18. In its essence the story of Kunāla and Tishyarakshitā is the same as that of Hippolytus and Phaedra, and it is not unlikely that it was derived from the classical legend. Such legends must have been familiar enough among the Eurasian Greeks in the North-West of India. Witness, for example, the drama of Antigone portrayed on a vase found at Peshāwar; and the Trojan horse depicted, in Buddhist guise, on a Gandhāra relief. Rhys Davids (*Buddhist India*, pp. 4 7) mentions an Indian version of the same story in which an elephant takes the place of the horse. Some versions of the Kunāla legend represent Aśoka as sending his son to restore order in Takshaśilā on the advice of a Minister of State, not through the instrumentality of Tishyarakshitā, and in some versions the prince dies after his return home without any miracle occurring to restore his eyesight. His real name was Dharmavivardhana and his father called him Kunāla because his eyes were small and beautiful, like those of the Himavat bird of that name. The blinding of the prince was the outcome of evil *karma* wrought in a previous existence. According to one story, he had blinded 500 deer; according to another, an *arhat*; or according to the *Avadāna-kalpalatā* he had taken the eyes (relics) out of a *chaitya*. Ghosha, the name of the *arhat* who restored his eyesight to Kunāla, was also the name of a famous oculist of this district. See T. Watters, *ibid.*

base measuring 63 ft. 9 in. from east to west by 105 ft. from north to south, and was provided with a stepped approach at its northern end. The base rises in three terraces, the lowermost of which is 3 ft. 4 in. high and is relieved by a series of stunted Corinthian pilasters resting on an elaborate torus and scotia moulding and formerly surmounted by a dentil cornice and copings, with Hindu brackets of the 'notched' variety intervening between the capitals and the cornice. The torus moulding at the base is bevelled in three facets. The middle terrace, which is 2 ft. 3½ in. high, is plain but covered, like the rest of the edifice, with a coating of plaster. The uppermost terrace seems to have been decorated in much the same way as the lowest one, but it was nearly three times as high, and the base mouldings and entablature were proportionately more massive and elaborate.[1]

Curvature of plinth

A remarkable feature of this monument is the delicate concave curvature of its plinth. The western side of the stūpa, for example, measured in a straight line from end to end, is 74 ft. 10 in. long; but the line thus drawn does not coincide with the actual line of the plinth, which recedes gradually inwards towards the centre, the greatest distance between the arc and the chord being 3 in. It is well known, of course, that entasis of the columns and curvature of other lines, both horizontal and perpendicular, was systematically employed in Greek architecture in order to correct the apparent defects caused by optical illusions; and it may be that the idea was introduced from Western Asia, along with the many other Hellenistic features which characterise the architecture of Taxila and the North-West. But, if this was so, it would appear that the optical principles which underlay the idea could not have been properly understood by the builders of the Kunāla stūpa; for in this case the curvature is concave instead of convex, and it has the effect of exaggerating the illusion, instead of correcting it.

Earlier stūpa of small dimensions

This stūpa, which I assign to the third or fourth century A.D., was not the earliest monument to be erected on this interesting site. Buried in the core of the structure and towards its north-west corner, I uncovered another and very much smaller stūpa (Pl. 87, *a*), which appears from its style to have been erected in Śaka-Parthian times, when the city wall alongside of it on the east was still standing intact. This older edifice, which is perched on a small rocky eminence well inside the city wall, is standing to a height of 9 ft. 8 in. It is constructed of rough blocks of limestone and consists of a square plinth with drum and dome above, the only feature that has disappeared being the crowning umbrella. The plinth is 4 ft. 6 in. high, the drum 2 ft. 2 in., and the dome 3 ft. Originally the rough stone masonry was covered with lime plaster, on which the mouldings and other decorative details were worked, but all the plaster has now perished.

Parallel at Kanishka's stūpa at Peshāwar

This little stūpa emerging, as it appears to do, from the body of the big one calls

[1] Among the fallen architectural members round about the stūpa I noted in particular the following: (*a*) Dentil brackets of kañjūr of the usual design but of four different sizes, viz. (1) 3⅛ in. high × 2½ in. wide; (2) 4¾ in. high × 4 in. wide; (3) 10¾ in. high × 7¾ in. wide; and (4) 1 ft. ½ in. high × 9 in. wide. (*b*) Balustrade pillars of kañjūr with bevelled edges of two sizes, viz. 4¾ in. and 7 in. wide respectively. (*c*) Coping of balustrade, 8 in. wide × 6¼ in. high.

to mind the little stūpa which Hsüan Tsang saw projecting from the side of the Great Stūpa of Kanishka at Peshāwar. The two cases, however, are not strictly analogous, since here, at the Kunāla stūpa, the original monument was completely hidden in the heart of the later one until disclosed to view by the spade. In the case of Kanishka's stūpa it is likely enough that the later monument was also built on the site of an older and smaller one, but it would seem that the little stūpa seen by the Chinese pilgrim was either a replica of the original set up on one of the upper terraces of the later edifice or possibly the original structure itself which had been dismantled and re-erected. Buddhists have always avoided the destruction of stūpas or other works of merit built by their co-religionists, and in this case it may well be that Kanishka was endeavouring, not only to preserve the original stūpa, but to keep it, or a replica of it, exposed to view.

Monastery at Kunāla's stūpa

Immediately to the west of the Kunāla stūpa and at a slightly higher level is a spacious and solidly built monastery in the semi-ashlar style, which is manifestly contemporary with the later stūpa. The walls are standing to a height of between 13 and 14 ft. at their highest point, and have a thickness varying from 5 ft. in the outer walls to 3 ft. 1 in. in the inner. They are of semi-ashlar masonry once covered with mud plaster and of singularly massive construction, some of the blocks of which they are composed measuring as much as 4 ft. × 2 ft. 6 in. × 1 ft. 6 in. It is noteworthy that, as a general rule, the bond is broken both in the ashlar courses and in the alternate diaper courses. The remains comprise a large rectangular court measuring 155 ft. 6 in. along its eastern side, with a smaller hall—evidently the assembly hall—on its south, the two together presenting a continuous frontage to the east of nearly 200 ft. The larger court is designed on the usual plan, with an open quadrangle in the centre and a veranda and range of cells behind it—nine on each of the four sides, the corner ones measuring 11 ft. deep by 20 ft. wide, the remainder being of the same depth and just half as wide. These measurements are said to be the orthodox measurements for such cells at the present day. In the cells are the customary niches for lamps, etc., closed over with a rounded or pointed arch. The main entrance to the monastery is in the eastern wall, but not quite opposite to the middle of the quadrangle, since there are five cells to the north of it and only four to the south. Its width is 15 ft. 2 in. and it is flanked by two massive pylons with a spacious threshold of heavy limestone flags in front. The veranda is 19 ft. 5 in. wide and raised, like the cells, on a plinth about 3 ft. above the level of the central depression, into which a short flight of steps descends in the middle of each side.

At the south-west corner of the central depression is a square plinth for the usual bathroom, with steps on its northern side. Water from the depression was carried off through a drain which passes under chamber S 5 to the outside. On the western side of the court, the foundations have slipped down the hillside and many of the cells have been destroyed. The same fate has also befallen the south side of the assembly hall; and this must have happened in ancient times, since the original massive walls on the south and west were replaced by thinner walls of rubble, not

on the same alignment but further to the north and east, respectively, with the result that the area of the hall was substantially reduced. If this monastery ever possessed a refectory and kitchen, as presumably it did, they must have been situated to the west of the hall of assembly.

Judging by the accumulation of debris inside the building, by the charred remains of timber over the debris, and by the later additions and repairs, the monastery seems to have been in occupation for a considerable period and finally to have been burnt down. Two arrow-heads discovered among the charcoal suggest that its destruction, like that of most of the Taxila *saṅghārāmas*, was due to hostile invasion.

Apart from coins, the small objects found on this site were singularly few, the only ones worthy of mention being the following:

Miscellaneous minor antiquities

Stone Objects. Ch. 25, no. 28, grinding-mill of Tarakī sandstone.

Stone Sculptures. Ch. 36, no. 18, winged male bracket figure.

Iron Objects. Ch. 27, no. 86, double-tanged arrow-head with barbed and ribbed blade; no. 89, four-bladed barbed arrow-head of a type that was probably used by the attacking Huns in the fifth century; no. 164, door-hook; no. 181, links of chain; no. 196, spud.

Copper and Bronze Objects. Ch. 28, no. 12, copper bangle with angular beaded decoration; no. 20, copper ear-ring of crescent-shaped pattern.

The last-mentioned came from the stūpa debris; the remainder from the interior of the monastery.

Coins

Of ninety-four coins recovered, forty-one came from the debris round about the stūpa,[1] and fifty-three from the monastery area,[1] chiefly from the cells or the broad veranda in front of them. The collection is very remarkable because, with the exception of one specimen of Vakkadeva, none of the coins are later than Vāsudeva, and the majority are anterior even to the foundation of this *saṅghārāma*, let alone to its destruction.

Punch-marked. AR one. For class, cf. Pl. 234, nos. 49–56 (st.).

Local Taxilan. Æ. Nineteen of eight different types. Seven of the types are described in the chart of Local Taxilan Coins on pp. 761-2 (ch. 38), viz. no. 1 type (one specimen from st.); no. 2 (two from st.); no. 3 (two from st., three from mon.); no. 9 (two from mon.); no. 18 (one from st.); no. 21 (four from st., two from mon.); no. 22 (one from st.). Not included in the chart is a coin from the stūpa debris showing a 'Wheel made up of crescents(?) and Blank' (cf. *A.S.R.* (1914), p. 28, no. 5). The fact that so many of these coins were scattered about inside the monastery and amid the stūpa debris leaves no room for doubt that they were still in circulation on a large scale as late as the fifth century A.D.

Greek. Æ. Hermaeus: one 'Bust of king and Nike' (mon.).

Śaka. Æ. Azes I: seven 'King seated and Hermes' (two from st., five from mon.). One 'Enthroned Demeter and Hermes' (st.). Azes II: six 'King on horseback and Zeus Nikephoros' (five from st., one from mon.). Rājuvula: two 'Lion and Heracles' (mon.).

Parthian. Æ. Gondophares: two 'King on horseback and Zeus to r.' (one from st., one from mon.); one 'King on horseback and Zeus to l.' (mon.); three 'Bust of king and Pallas' (two from st., one from mon.). Sasan: one 'Bust of king and Nike' (mon.); one 'Bust of king and Pallas standing' (mon.), but the attribution of this coin to Sasan is uncertain.

Kushān. Æ. Kadphises I: eighteen 'Bust of Hermaeus and Heracles' (ten from st., eight from mon.). Kadaphes: two 'Head of Claudius (?) and King seated' (st.). Kadphises II:

[1] Indicated in the list that follows by the abbreviations st. and mon. respectively.

two 'King at altar and Śiva and bull' (st.). Kanishka: two 'King at altar and Nanaia' (st.); two 'Metal-god' (st.); three 'Sun-god' (two from st., one from mon.); five 'Wind-god' (two from st., three from mon.); five 'Moon-god' (four from st., one from mon.). Huvishka: one 'King seated and standing deity' (mon.); one 'King on couch and Sun-god' (st.). Vāsudeva: four 'Śiva and bull' (mon.); one 'Seated goddess' (st.). Vakkadeva: one 'Elephant and lion' (st.).

Beads to the number of thirty were found on this site, viz. two spherical shell and one standard barrel of glass in the debris round the stūpa, and the remaining twenty-seven, as shown in the table below, in the cells and courtyard of the monastery. Beads

It may be assumed that these beads were in use at the time of the destruction of the monastery, which in all probability happened in the fifth century A.D., but some of them may have come down, like the coins, from earlier times.

Shape	Agate	Car-nelian	Shell	Terra-cotta	Glass, opaque yellow	Glass, amber	Total
Spherical	2	2	—	—	—	1	5
Oblate	—	—	3	—	—	—	3
Barrel, short	—	—	2	—	—	—	2
Cylindrical, lozenge	—	—	1	—	—	—	1
Disk	—	—	4	—	9	—	13
Wedge-shaped	—	—	2	—	—	—	2
Lenticular	—	—	—	1	—	—	1
Total	2	2	12	1	9	1	27

GHAI

Monastery at Ghai—an annexe of Kunāla monastery

Just as at Kālawān there was a smaller monastery on the hillside high above the main *saṅghārāma*, so also here there was a smaller monastery above the Kunāla *saṅghārāma*, and serving probably as an annexe to it. The mound on which it stands, known locally as Ghai, rises above one of the ruined bastions of the east wall of Sirkap, half-way between the Kunāla monastery and the south-east corner of the city. The monastery, which is built of semi-ashlar masonry, was no doubt contemporary or thereabouts with the larger monastery below it. In plan and dimensions (it is 60 ft. square approximately) it resembles monastery H at Kālawān, of which it was probably a copy. Thus there is the same square hall in the centre in place of the customary open court, and the same arrangement of windows for admitting light and air to the hall and to the covered passages. The only real difference is in the number and disposition of the cells. Unfortunately, a considerable stretch of the outer walling on the north and south has perished, and with it some of the partitions between the cells, but judging by what has survived there would seem to have been fifteen cells in all on the ground-floor instead of the eleven at Kālawān. The entrance, be it added, was on the north side, with a window opposite to it, which opened from the central hall; and by the side of the entrance there was presumably a stairway leading to the upper floor, as there was at Kālawān. In several of the cells are wall niches for lamps, etc.

Resemblance to monastery H at Kālawān

It seems not unlikely that the idea of these roofed-in monasteries, which are exemplified at Kālawān and Ghai, was taken from the well-known rock-hewn monasteries of Western India and the Dekhan, and I incline to think that the *guha-vihāra* mentioned in the Lion Capital Inscription at Mathurā[1] may have been a monastery of this type; for the name would certainly have been very appropriate, and, so far as I am aware, there are no grounds for supposing that any *vihāra* at Mathurā was ever hewn, like a cave, out of a hillside.

Small antiquities

The only small antiquities found in the ruins of this monastery were an iron finger-ring with copper bezel ('Finger-rings', ch. 31, no. 58) and three copper coins, viz. one Local Taxilan of type no. 4 ('Coins', ch. 38, p. 761), one Kadaphes ('Head of Claudius(?) and king seated') and one Huvishka ('King seated cross-legged and standing deity').

[1] *C.I.I.* II, p. 48.

Chapter 17. MOUNDS A AND B AT JAṆḌIĀL

Position of mounds

RATHER less than two furlongs to the north of the Jaṇḍiāl temple (ch. 9) and on the west bank of the Luṇḍī nālā were two low mounds covering small groups of ruins. On the map (Pl. 1) they are distinguished by the letters A and B. The latter, which lies to the east and is the larger of the two, is numbered 40 in Sir A. Cunningham's plan of the site. It proved to contain the remains of a medium-sized but very interesting stūpa set in a courtyard and once surrounded by buildings (Pl. 91). The stūpa is of two periods, having originally been built in Śaka-Parthian times, and rebuilt in the third or fourth century of our era. The earlier structure is now standing to a height of a little over 2 ft. above the old floor-level. It is a little less than 33 ft. square, with a projecting staircase on its southern face, and a relic chamber measuring 11 × 14 ft. in the centre. Like the shrines in Sirkap, it is faced with squared kañjūr blocks somewhat irregularly laid, the core and foundations consisting of rough limestone blocks and pebbles closely compacted with earth. Round the base runs a torus and scotia moulding of the usual pattern, and above it is a series of square pilasters, six on each side of the building, which were once surmounted by a dentil cornice. Along the edges of the plinth and flanking the ascending stairway was a small railing of kañjūr stone covered, like the plinth itself, with a coating of stucco. Leading from the entrance of the monastery to the steps on the south side is a narrow causeway of stone, and near the foot of the steps on their eastern side is a square plinth, which, like the one by the side of the shrine in Block G in Sirkap, probably supported a lustral bowl. In the courtyard are two small bases, presumably of stūpas, one near the south-east corner of the main stūpa and approximately contemporary with it, the other, of somewhat later date, on its western side.

Stupa in Mound B of two periods

Earlier structures

Later structures

When this stūpa and the buildings connected with it had fallen to decay, another stūpa and a second series of buildings were erected on their ruins. This later stūpa (Pls. 91 and 92, *a*) has a circular plinth, 35 ft. in diameter, and is constructed of limestone blocks in the semi-ashlar style, which first came into vogue in the second century A.D. On this plinth and at a distance of 3 ft. 7 in. from its outer edge are sections of the kañjūr moulding which decorated the base of the drum. It is of decadent form, the edge of the stone torus being, as was usual in later buildings at Taxila, bevelled instead of curvilinear, but finished off round in the stucco with which it was covered.

Cunningham's excavation

This stūpa was hastily excavated by Sir Alexander Cunningham, who appears to have penetrated as far as the later structure only, which he describes as being 'upwards of 40 ft. in diameter' and which he erroneously identifies with the stūpa

erected by Aśoka on the spot where Buddha in a previous existence had made an offering of his head. Prior to Cunningham's excavation the relic chamber of the earlier stūpa had been opened by the villager Nur, who, without being aware of the fact, seems to have thrown out the relics concealed within; for in the spoil earth left at the side of the stūpa I found a small silver casket, ¾ in. in diam. and lenticular in shape, containing a smaller one of the same pattern in gold, and in the latter a small fragment of bone. The larger vase, in which these caskets had no doubt reposed, had disappeared.

Unusual features of remains

Two features of these remains deserve to be noticed. One is the exceptionally large size of the rectangular relic chamber belonging to the original fabric, which calls to mind the equally large but circular chamber in stūpa A4 at Kālawān, the interior walls of which appear, as we have seen, to have been whitewashed from time to time, though how the chamber was entered is a puzzle that I do not attempt to solve. The other noteworthy feature is the unusual plan of the foundations on the north and west sides of the stūpa-court. In the Śaka-Parthian period to which this stūpa is referable, we should not, of course, expect to find a quadrangle enclosed by rows of symmetrical cells, such as are characteristic of later monasteries, nor can we in fact be sure that any of the surviving chambers were used for residential purposes. The small group Q, R, S, may have been so used, but the larger building T at the north-east corner was evidently an open court with a small chapel—possibly for an image—projecting into it from its northern side. And on the west side of the quadrangle, what appear at first sight to have been long narrow rooms (N, O, P) were in fact nothing more than the foundations of a raised platform. It is all the more necessary to draw attention to the unusual character of the buildings surrounding the courtyard of this stūpa, because the description and plan of them published by Cunningham[1] are so fanciful and misleading that one wonders whether they really relate to this site at all.

Minor antiquities from B site

Besides the reliquaries and various fragments of the railings and dentil cornices referred to above, the following small objects were also found on this site:

(1) Large stucco head of Bodhisattva, wearing moustache and hair arranged in topknot. Nose mutilated. Height 1 ft. 5½ in.

(2) Small bronze bell, 1·25 in. across mouth.

(3) Dumb-bell shaped ornament of glass ('Glass Objects', ch. 35, no. 22 and Pl. 210, *f*).

(4) Scaraboid seal of chalcedony engraved with horse racing to left ('Seals', ch. 34, no. 12 and Pl. 207, no. 4). One of the best bits of Hellenistic engraving from Taxila.

(5) Oval flat seal of banded agate crudely engraved with figure of man. Length 0·7 in.

(6) Cubical bead of garnet, and hexagonal flat barrel bead of aquamarine.

(7) Twenty-four coins comprising: one Apollodotus I ('Apollo with bow and arrow and tripod'; cf. *P.M. Cat.* Pl. 4, no. 307); four Azes I (two 'King seated on cushion and Hermes' and two 'Demeter enthroned and Hermes'); fourteen Soter Megas ('Bust of king and horseman'); three Kanishka (two 'Sun-god' and one 'Moon-god'); two Vāsudeva ('Śiva and bull').

Twelve of the coins of Soter Megas were found together near the foot of the stūpa steps,

[1] *Vide C.S.R.* v, p. 74 and Pl. xx.

where they had seemingly been buried after the earlier stūpa had fallen to ruin but before the later one was built. The rest of the objects were found scattered among the debris.

The second and smaller mound A is to the north-west and within 100 ft. of B. It also proved to contain the remains of a stūpa (Pl. 90), which is almost an exact replica as to both dimensions and design of the earlier of the two stūpas described above and unquestionably of the same age. The only noteworthy difference between them is that in this case the relic chamber is of more normal size (6 ft. square)—a fact that suggests that the relic chamber in stūpa B may have been enlarged at the time when the later monument was erected on that site. No relics or other minor antiquities of interest were found at stūpa A. Stūpa A

Chapter 18. MOHṚĀ MORĀDU

Situation and condition of site

THE *saṅghārāma* of Mohṛā Morādu lies in a secluded glen at the back of the modern village of the same name. Here, as one goes eastward, the slopes grow noticeably greener; for the wild olive and *sonattha* shrub flourish freely among the rocks, and the rugged defile of Meṛi, through which the pathway ascends to the ancient site, is singularly picturesque. Inside the glen—or I might better, perhaps, term it a cup in the hills—an oblong terrace was constructed by the Buddhist builders, and side by side on this terrace were erected a stūpa and a monastery of commanding size—the former at its western, the latter at its eastern end. When first discovered, both monastery and stūpa were buried in a deep accumulation of debris and detritus from the surrounding hills, the only part of the structures visible to the eye being about 5 ft. of the ruined dome of the stūpa, which in years gone by had been cut in two by treasure hunters in search of the relics, and, like the Dharmarājikā Stūpa, had been sadly damaged in the process. Beneath this accumulation, however, both buildings proved to be unusually well preserved, standing actually to a height of between 15 and 30 ft. and still retaining many admirably executed reliefs in stucco on their walls.

Design and fabric of main stūpa

The design of the stūpa and its decoration will be clear to the reader from the plan, section and details on Pl. 93, *a*, as well as from the photographs on Pls. 92, *b*, 96, *c*, 97, *a* and 150–2. Its core, as usual, was of rubble and its facings of diaper limestone masonry of the type that came into vogue in the second century A.D. Later this masonry was repaired in places with semi-ashlar, probably at the time when the existing stucco reliefs were executed. Kañjūr was used only for the mouldings, pilasters and other decorative features. The pilasters between the bays on the plinth of the stūpa are of noticeably slender proportions and are composed, not, as was often the case, of long perpendicular blocks of kañjūr let into the limestone walls, but of piles of small and neatly dressed pieces measuring about 9 × 3½ in. on the face, and presenting almost the appearance of bricks. In the mouldings at the base only the stucco facing was rounded off, the core of kañjūr being merely bevelled in flat facets and provided with channels to which the stucco could better adhere. The berm, which was raised to a height of 16 ft. above the ground-level, was covered with a layer of concrete about 1 in. in thickness and composed of river *bajrī* and lime. No trace of any relic chamber was found in the drum or plinth, and if such a chamber ever existed, it must have been placed high up in the dome, which is now destroyed.

Figural reliefs

Thanks to the protected position of this stūpa and other fortunate circumstances, many of the stucco reliefs with which its walls were decorated and which in most other cases have almost entirely perished, are here tolerably well preserved; and though their colouring has all but disappeared, they suffice to give us a much

better idea than we could otherwise have got of how these monuments looked when they first emerged from the hands of their builders. Apparently, the whole surface of the structure up to the top of the drum was covered with figural reliefs. In the bays between the pilasters were groups of Buddhas with attendant Bodhisattvas and *devas*; on the face of the pilasters themselves were numerous Buddhas ranged one above the other; on the drum, again, above the berm the same figures were repeated on a smaller scale; and on each side of the steps was a continuous row of figures disposed in decreasing sizes beneath the raking cornice, just as they might have been in the pedimental groups of a classical temple. Some examples of these reliefs are figured in Pls. 96, *c* and 150–2. The latter are fully described in chapter 26, and here I need say no more than that these Mohṛā Morādu sculptures comprise some of the finest examples of the Indo-Afghān School known to us, the only other sculptures of this school that can be compared with them (I refer in particular to those in the fourth bay from the western end, illustrated in Pls. 150, *a* and 151) being the superb group in alcove B20 at Kālawān (pp. 337–40).

Among the many detached heads and other fragments which were lying round about the base of the stūpa, may be noticed two Bodhisattva heads and a third of a lay-worshipper (?) described in chapter 26 ('Stucco Sculptures', nos. 36–8 (= Pls. 153, *d*, 149, *l* and 153, *c*) and two Buddha and two Bodhisattva heads described in my *Report* for 1915–16, pp. 26–7, nos. 1, 4, 5, 6, and illustrated on Pl. xx, *c*, *f*, *g* and *h*, of that *Report*. Detached fragments

On the south side of the steps of this stūpa is a smaller monument of the same class, a plan and section of which are shown on Pl. 93, *b*. Like the main stūpa, it was built in the second century A.D. and originally faced with diaper masonry, but was renovated some two centuries later and adorned with figural reliefs similar in style to those on the larger edifice. Only a few of the stucco reliefs, in a much-damaged condition, have survived on the south and west sides. A *harmikā*, which may have belonged to this stūpa, is described under 'Stucco Sculptures' (ch. 26), no. 38, *a* and illustrated in Pl. 149, *k*. It is made of kañjūr stone decorated in stucco with two bands of dentil brackets. On the stucco are traces of blue and red pigments. Subsidiary stūpa

The monastery connected with these stūpas is as interesting as the stūpas themselves (Pls. 93, *a*, 94 and 95). The entrance to the court of cells is on the north, and access to it is provided by a broad flight of steps with a landing at the top (Pl. 95, *a*). The steps, which are built of limestone and are much worn, are 9 ft. 9 in. in width, with treads 1 ft. 2 in. broad and risers 10½ in. in height. Originally, the doorway leading into the portico was 10 ft. 8 in. in width, but some alterations and additions seem to have been made at a later date, which had the effect of reducing its width by about 6 ft. On the west wall of the portico and at a height of 3 ft. 4 in. from the floor is a niche containing a remarkably well-preserved group of stucco figures in high relief, namely: Buddha seated in the centre with four attendant figures—Buddhas, Bodhisattvas and *devas*—on either side (Pl. 97, *b*). The niche is 4 ft. in height by 1 ft. 8 in. in depth and is closed above by a pointed corbelled arch. The modelling of the figures in this group is not of a high order. Monastery

Interior: plan and structural details

Passing from the portico into the interior of the monastery we find ourselves in a spacious court with twenty-seven chambers ranged on its four sides, twenty-four of which served as cells for the *bhikshus*. In the middle of the court is a depression about 2 ft. deep with steps descending into it on each of its four sides, and, at its south-east corner, a square platform which once supported the walls of the bath-room (*jantāghara*). Round about this depression and at intervals of about 5 ft. from one another is a series of stone slabs, the upper surface of which is level with the rest of the court. These slabs acted as bases for the pillars of a broad veranda, which was constructed mainly of wood[1] and which, besides shading the fronts of the cells, served also to provide communication with the cells on the upper floor. The eaves of the veranda no doubt projected beyond the pillars which supported it, and discharged the rain-water into the depression in the middle of the court, whence it was carried off by a covered drain. The height of the lower story was about 12 ft., as is proved by a ledge and row of socket holes, evidently intended for the timbers of the first floor, in the back walls of the cells on the south side. Access to the upper floor was obtained, not, as might have been expected, near the entrance portico but by way of two flights of steps in chamber no. 15 on the south side of the building. On the western and southern sides of the court all the cells are provided with windows; on the northern side windows were not so necessary, as the light admitted through the cell doors would be brighter; and on the eastern side they were impracticable, inasmuch as there were other chambers at the back of the cells. The windows are placed at a height of about 8 ft. from the ground and are somewhat narrower at the top than at the bottom, contracting also considerably towards the outside. In some of the cells, but not in all, are small wall niches for lamps or other articles.

Decorative features

The interiors of the chambers occupied by the monks were covered, like the rest of the monastery, with a coating of plaster, in this case of mud, but were probably destitute of any decoration. In the verandas, on the other hand, the walls appear to have been relieved with colours, and the woodwork was no doubt carved and painted or gilded, while the courtyard was further beautified by effigies of the Buddha of superhuman size set on pedestals in front of the cells or by groups of sacred figures in little niches in the walls (Pl. 96, *a*). Of the larger effigies, remains of seven have survived round about the quadrangle, namely, in front of the cells 1, 2, 5, 7, 11, 12 and 23; but only the first three of these are even tolerably well preserved. In each of these cases there is a particular interest attaching to the smaller reliefs on the front of the pedestals, from the fact that they illustrate the dresses worn by lay-worshippers at the time they were set up, namely in the fourth or fifth century A.D. (Pl. 96, *a*).

Figural groups in niches

Of the groups in niches there were six, in addition to the one inside the entrance portico, viz. two in front of the portico and one each in front of cells 4, 21, 22 and 26. Some of these groups were of stucco, others of terra-cotta. Of the former, the

[1] The wood construction was evidenced by the mass of charcoal, iron fittings, etc. found in the debris.

best preserved was the one in front of cell 4, which portrays the Buddha seated in the *dhyāna-mudrā*, with attendant figures to right and left.[1] Of the latter, only detached pieces were found lying in the courtyard. Among them the most notable were a seated image of the Buddha and a very charming head of a *deva*, perhaps from the same group, which are described in chapter 24 ('Terra-cottas'), nos. 179 and 180, and reproduced in Pl. 138, *j* and *k*.

Stūpa in cell 9

Another very interesting find in the court of cells was a stūpa, almost complete in every detail, which came to light inside cell no. 9 (Pl. 95, *b*, right-hand side). It is standing to a height of 12 ft. and is circular in plan with a plinth divided into five tiers, with elephants and Atlantes alternating in the lowest tier, and Buddhas seated in niches alternating with pilasters in the tiers above. The core of the stūpa is of kañjūr, and the mouldings and decorations are of stucco once decorated with colours, viz. crimson, blue and yellow. The umbrella was constructed in sections threaded on to a central shaft of iron, but in the course of ages this shaft had decayed, and the umbrella was found lying at the side of the stūpa. The edges of the umbrellas are pierced with holes intended for streamers, garlands or bells.

The purpose of such stūpas

This is not the only example at Taxila of a stūpa having been erected in what seemingly was an ordinary monastic cell. The same phenomenon has already been observed in the case of cell F 12 at Kālawān (Pl. 79, *a*) and E 1 at the Dharmarājikā, and the question presents itself whether these particular stūpas were designed as objects of cult worship for the general use of the monastery or as memorials to signalise the sanctity of the cell where some specially holy *bhikshu* had lived and died. In its origin the stūpa was of course nothing more than a funeral monument, and it would therefore have been quite in keeping with Indian tradition to utilise it for the second of these two purposes. Moreover, in favour of the latter hypothesis it should be noted: (*a*) That in other cases where a stūpa-chapel was required inside the court of cells, as for example at Akhaurī (p. 316), it was given a form slightly different from that of the living cells. (*b*) That at the Dharmarājikā there was such a stūpa-chapel (E 2) actually next door to the stūpa-cell E 1, and, on the face of it, it seems improbable that both of these monuments were erected exclusively for the purpose of cult worship. (*c*) That the stūpa of which we are speaking at Mohṛā Morādu is some two centuries more modern than the cell in which it stands, and it is reasonable to suppose that prior to its erection the cell had been used for living purposes and could hardly have been regarded, therefore, as suitable for conversion into a cult-chapel. (*d*) That, unless there was some special reason for choosing this particular cell, it would have suited the convenience of the monks better if the stūpa had been set up in one of the cells next to the entrance portico or next to the stairway leading to the upper story, i.e. in the position occupied by the image-chapel at Jauliāñ (pp. 381–2). For these reasons I incline to think that these cell-stūpas were intended primarily as memorials to some revered member of the *saṅgha*, in the same way as the stūpa at Kunāla was intended, according to Hsüan Tsang, to perpetuate the memory of that prince.

[1] For an illustration of this group, cf. *A.S.R.* (1915–16), Pl. XXIII, *a*.

Assembly hall and other chambers

On the east side of the court of cells is a group of apartments reached through a doorway at the back of room 7. Among them the assembly hall is readily recognisable in the spacious hall at the northern end (33 × 34 ft.), the roof of which was no doubt supported, as usual, on four columns. Of the others, the identity is less certain, particularly as this part of the monastery was largely rebuilt and added to in later days, but comparing the lay-out with that of the contemporary monastery at Jauliāñ, which was planned on very similar lines, we may infer that the room next to the assembly hall was the kitchen (*agni-śālā*) with a small larder and store-room (*koshṭhaka*) attached, the latter being the small and massive rotunda at the south-east corner, the former the rectangular closet with raised benches on two of its sides. And we may surmise, further, that the two rooms at the south end served originally as a refectory and steward's room, though the latter was subsequently converted into a bathroom by raising its floor by some 8 ft. and constructing in it a reservoir with a water-channel leading down into the middle chamber. When this change took place, the refectory was perhaps combined with the assembly hall.

Character of masonry used in monastery

It remains to add that the original walls of this monastery are built in the same late variety of large diaper masonry as the stūpa and may be assigned both on this and other grounds to the second century A.D. Additions and repairs are in late semi-ashlar work and for the most part were executed some two centuries later.

Minor antiquities

Besides the detached stucco and terra-cotta pieces noticed above, the following minor antiquities were found on this site:

(1, 2) *Terra-cottas.* Two heads of Buddha images, 8 and 12 in. high respectively, with traces of lime slip. From courtyard of monastery, where they probably belonged to two of the pedestal images. Cf. *A.S.R.* (1915–16), pp. 29, 30, nos. 7 and 9 and Pls. XXIII, *d* and XXIV, *b*. Mm. '15–149 and 168.

(3) Head of Bodhisattva (?), 4·75 in. high, with traces of lime slip. From monastery courtyard, where it probably belonged to one of the niche groups. *Ibid.* no. 8 and Pl. XXIII, *g*. Mm. '15–73.

(4) *Stucco.* Small head of Buddha, probably from one of the niche groups. Found in cell 19. 'Stucco Sculptures', ch. 26, no. 35 and Pl. 153, *a*.

(5, 6) *Stone Sculptures.* Pieces of phyllite frieze and cornice, from south side of stūpa II. 'Stone Sculptures', ch. 36, nos. 55 and 83.

(7) Capital of phyllite, from cell 7. *Ibid.* no. 31.

(8) False gable-window of phyllite with legends in three panels. From cell 8. *Ibid.* no. 110 and Pl. 219, no. 110.

(9) Full-length image of the Bodhisattva Maitreya—one of the finest examples of Gandhāra sculpture. From cell 8. *Ibid.* no. 142 and Pl. 223.

(10) Similar, but of inferior style. From cell 8. *Ibid.* no. 143 and Pl. 224.

(11) Head of Buddha wearing moustache. From side of monastery steps. *Ibid.* no. 159.

(12) Relief with two standing Buddha figures. From cell 19. *Ibid.* no. 188.

(13) Fragment of seated Bodhisattva. From cell 17. *Ibid.* no. 191.

Of the above sculptures, nos. 8, 9 and 10, which are the three finest pieces, were found together in cell 8, where they had probably been deposited for safety's sake at the time of the Hun invasion.

(14, 15). *Other Stone Objects.* Two lamps of phyllite and schist, respectively, from courtyard and cell 15. 'Stone Objects', ch. 25, nos. 112 and 113, *a*; Pls. 141, *dd* and 142, *a*.

(16) *Iron.* Door-latch from cell 2. 'Iron Objects', ch. 27, no. 52 and Pl. 164.

(17) Spinning-wheel axle (?). *Ibid.* no. 55 and Pl. 164.

(18) Spear-head. From entrance steps. *Ibid.* no. 67 and Pl. 164.

(19) Spear-butt. From courtyard. *Ibid.* no. 71 and Pl. 164.

(20) Five four-bladed barbed arrow-heads of same type as 'Iron Objects', ch. 27, no. 89 (Pl. 165, no. 89). From courtyard.

(21) Knife or dagger. From cell 9. *Ibid.* no. 128 and Pl. 166.

(22) Nail. *Ibid.* no. 153 and Pl. 167.

(23, 24) Ceiling and door-hooks. *Ibid.* nos. 163, 165 and Pl. 168.

(25) Nine clamps, some with nails attached. *Ibid.* no. 169 and Pl. 168.

(26) Door-hinge. From cell 23. *Ibid.* no. 177 and Pl. 168.

(27) *Copper and Bronze.* Child's bangle of copper with beaded pattern. From south-east corner of main stūpa. 'Copper and Bronze Objects', ch. 28, no. 15 and Pl. 171, *l*.

(28) Spoon of beaten copper. Monastery entrance. *Ibid.* no. 318 and Pl. 176.

(29) Copper-gilt *triratna*. North side of monastery. *Ibid.* no. 403 and Pl. 178, *c*.

(30) Copper wheel (*cakra*), 4·5 in. diam., with iron nail in centre. Door ornament, similar to no. 407, Pl. 178, *k*. Mm. '15–31. *A.S.R.* (1915–16), Pl. XVI, *e*.

(31) Copper inkpot, 1·25 in. diam., with detachable cup and serpentine handle, similar to 'Copper and Bronze Objects', ch. 28, nos. 334 and 335 (Pl. 176). Mm. '15–61. Illustrated in *A.S.R.* (1915–16), Pl. XV, *k*.

(32, 33) *Shell.* Bangles, from monastery courtyard. 'Shell Objects', ch. 33, nos. 20 and 38, Pl. 201, nos. 25 and 26.

(34) Roundel, from cell 14. *Ibid.* no. 43, Pls. 201, no. 27 and 202, *h*.

(35) *Seals.* Square cylinder seal of copper with erotic and other devices on four sides. From cell 3. 'Seals', ch. 34, no. 37 and Pl. 208, no. 44.

(36) Large square tablet seal of indurated clay with engraved figures on both faces and inscription in Gupta Brāhmī characters of fourth to fifth century A.D. reading *Hariśchandrasya* = 'Of Hariśchandra'. *Ibid.* no. 38 and Pl. 208, no. 59.

(37) *Beads.* Of twenty-three beads found in the monastery, six came from cell 24, two each from cells 4, 23 and 26, and one from cell 25. The rest came from the courtyard. No beads were found in the stūpa area. The shapes and materials of the twenty-three beads are as follows:

Shape	Agate	Car-nelian	Lapis-lazuli	Soap-stone	Shell	Faience	Glass (colour-less)	Total
Spherical	2	5	—	—	4	—	—	11
Oblate	1	—	—	1	—	—	—	2
Barrel, long	1	—	—	—	—	—	—	1
Barrel, short	2	—	—	—	—	1	—	3
Cylindrical	—	—	—	—	2	—	—	2
Disk	—	—	1	—	1	—	—	2
Domical	—	—	—	—	—	—	1	1
Wedge	—	—	1	—	—	—	—	1
Total	6	5	2	1	7	1	1	23

(38) *Coins.* Coins to the number of eighty-four were found on this site, viz. ten in the debris of the stūpa area and seventy-four in the monastery, mainly in the cells and courtyard. They are as follows:

Æ. One punch-marked (horse (?), solar symbol, row of circles (= Pl. 231, no. 6), and blank).

Æ. Three Local Taxilan (one 'three-arched *chaitya* and blank'; two 'lion and swastika'). One Azes I ('King seated and Hermes'). Two Azes II ('King on horseback and Zeus standing'). One Kadphises I ('Bust of Hermaeus and Heracles'). One Kadphises II ('King at altar and Śiva with bull'). Two Soter Megas ('Bust of king and horseman'). Twelve Kanishka (one 'Wind-god', one 'Metal-god', two 'Sun-god', three 'Moon-god', five 'Nanaia'). One Huvishka ('King on elephant and Sun-god'). Forty-nine Vāsudeva (thirty-six 'Śiva and bull', thirteen 'Seated goddess'). One Kidāra Kushān ('Bust of king and fire altar' = R.U.C. no. 275). Four Sasanian (Ditto = R.U.C. nos. 293–5). One Toramāna ('King at altar and goddess with lotus' = R.U.C. no. 315). One Sāmantadeva ('Lion and elephant' = R.U.C. no. 321). Four late Indo-Sasanian (?) (one 'tree-in-railing' and indistinct = R.U.C. no. 334, two 'male standing figures and three parallel lines' = R.U.C. no. 343, one 'male standing figure' on obverse and reverse = R.U.C. no. 357).

The only groups were as follows: (*a*) One punch-marked, one Kanishka, two Vāsudeva, from cell 6. (*b*) One Azes II, five Vāsudeva, from cell 14. (*c*) One Kadphises I, two Kanishka, two Vāsudeva, from cell 1. (*d*) Two Vāsudeva, from cell 23. (*e*) One Vāsudeva, one Sasanian, from south of stūpa. The rest of the coins were found singly.

(39) *Medal.* Æ. 1·1 × 0·7. Obverse, male bust to r.; no legend; reverse, blank. Mm. '15–267.

Chapter 19. PIPPALA

PIPPALA (Pl. 98, *a*) is situated at the foot of the hills between Mohṛā Morādu and Jauliāñ, about 400 yards south of the road leading to the latter place (Pl. 1). The remains are of two periods. To the east is the courtyard of a monastery dating from late Parthian or early Kushān times and comprising an open quadrangle in the centre with ranges of cells on its four sides. In the middle of the courtyard is the basement of a square stūpa (A) facing north, and close beside it the ruins of four other smaller stūpas (B, C, D and E). This early monastery, which is constructed of diaper masonry, must have fallen to ruin before the fourth to fifth century of our era; for at that time a second monastery was erected over the western side of it, completely hiding beneath its foundations all that remained of the old cells and veranda on this side. At the same time, also, the rest of the early monastery was converted into a stūpa-court by dismantling and levelling with the ground everything except the stūpas in the open quadrangle and the back wall of the cells, which was now to serve as an enclosure wall for the new courtyard. Later on, another small stūpa (G) was constructed near the north-east corner of this court, where it rests on the foundations of the cells of the early monastery numbered 4, 5 and 6 on the plan (Pl. 100, *a*). The only small antiquities recovered in this part of the excavation were a defaced copper coin, found in the core of stūpa G, and some fragments of kañjūr pilasters and brackets with bulls seated back to back and a few stucco heads which had fallen from the other small stūpas.

Situation

Remains of two periods described

The later monastery is built of heavy semi-ashlar masonry and is exceptionally well preserved. Though its scale is considerably smaller, its plan is generally similar to that of the monasteries at Jauliāñ and Mohṛā Morādu. It comprises a court of cells on the north, with a hall of assembly, kitchen and refectory on the south, and the converted stūpa-court described above to the east. The hall of assembly, kitchen and refectory resemble the corresponding chambers at Mohṛā Morādu and Jauliāñ, but a feature worthy of notice is that the dividing wall between the kitchen and dining-room is constructed, not of solid stone masonry, like the outer walls or the wall between the refectory and assembly hall, but of rubble stone and mud resting on a low plinth of stone (Pl. 100, *d*). The same method of construction is also followed in the interior walls of the court of cells, the stone plinth being only 1 or 2 ft. in height and the wall above it composed of rubble stone loosely laid in mud and, no doubt, originally covered with mud plaster.[1] The method of construction here exemplified is particularly interesting, as it explains why so many of the walls at Taxila have been found standing to a height

Plan of later monastery

Peculiar method of construction

[1] For other examples of this method of construction at Akhauri and Kālawān, *vide* pp. 316 and 335–6.

of only 1 or 2 ft. and when excavated presented an almost dead level surface at the top—the fact being that they formed merely the foundation plinth for mud or mud and stone walls which for the most part had become completely disintegrated.

Court of cells

The court of cells was of two stories and consisted, as usual, of an open quadrangle with cells for the monks on its four sides and a broad-pillared veranda, two stories high, in front of them. In the centre of the court was a small rectangular depression about 1 ft. in depth and paved with stone, which received the rain-water from the roof and from which it was carried out through a drain on the western side passing under cell 23. Access to the upper story (which has now entirely perished) was provided by a flight of stone steps which ascends at the side of the passage leading to the kitchen and hall of assembly. Of the twelve chambers on the ground-floor, one on the eastern side (29) served as an entrance lobby, from which a double flight of steps descended to the court of stūpas on the east (Pl. 100, *c*). In another cell at the south-east corner (31) was found a fine example of a stūpa in almost as perfect preservation as that in the monastery at Mohṛā Morādu (Pl. 98, *b*). This stūpa and the cell in which it stands merit particular notice, as the floor-level of the cell is 2½ ft. below that of the rest of the monastery, and this circumstance as well as the character of the stūpa itself, which is of diaper masonry, leave no doubt that the stūpa was built originally in one of the cells, or possibly in a chapel, of the earlier monastery and then incorporated into the later monastery, when the latter was erected on the ruins of its predecessor. As it stands, the stūpa is about 8 ft. in height and rises in three diminishing tiers, the topmost surmounted by a dome and originally crowned by an umbrella, many pieces of which were found lying at its side. The lowest tier was once decorated with a series of Ionic pilasters alternating with lotus rosettes, but the Ionic pilasters were afterwards covered up by a coating of plaster and replaced by somewhat coarser pilasters of the Corinthian order (Pls. 98, *b* and 100, *b*). The second tier is plain save for the figure of a Dhyāni Buddha on the north side. At the base of the dome was a series of eight seated Buddhas, of which two on the south side are still partially preserved. This later stucco work dates from the fourth to fifth century A.D. Whether the earlier stucco beneath is contemporary or not with the original structure is open to question. Traces of gold, red and black paint were still visible on the monument at the time of its excavation. Originally, the stūpa cell was entered through a doorway opening from the courtyard, but this doorway was subsequently blocked up and replaced by a window at a higher level.

Stūpa in cell 31

Stūpa K

Outside this monastery on the north side is another small stūpa (K), also built of diaper masonry in the same style as the early monastery, and later on enclosed by a wall of semi-ashlar work forming an ambulatory passage around the monument.[1] The low reliefs on the base of the stūpa are preserved to some extent on its east and south sides and exhibit the same kind of Indo-Afghān workmanship as the

[1] This wall was in all probability contemporary with the stucco reliefs (fourth to fifth century A.D.) which adorn the stūpa base, and it may have been designed to support a roof for their protection.

figures on the south side of the Mohṛā Morādu stūpa, though they are by no means in such good condition.

The minor antiquities from the later monastery and debris on its northern side were very few. They included: Minor antiquities

A circular stamp of earthenware with device of starred panels in zigzag and milled borders, from cell 21 ('Pottery', ch. 23, no. 269 = Pl. 131, *o*); key with perforated wards and part of lock, from cell 23 ('Iron Objects', ch. 27, no. 5c = Pl. 164, no. 50); a *dharmacakra* door ornament of beaten copper from the monastery court ('Copper and Bronze', ch. 28, no. 407 = Pl. 178, *k*); a miniature copper umbrella and pin surmounted by bird, from the same spot (cf. *ibid.* Classes IX and XXX); and a small grinding-mill of stone from the kitchen (cf. 'Stone Objects', ch. 25, Class V, no. 29). The debris on the north side of the monastery yielded an ear-reel of crystal quartz (*ibid.* no. 160), a carved mother-of-pearl finger-ring ('Finger-rings', ch. 31, no. 62 = Pl. 209, *b*), a miniature silver casket (broken) and several iron arrow-heads, both flat and three- or four-bladed (cf. 'Iron Objects', ch. 27, Class XX).

Beads. Of beads, only five specimens were found on this site, namely: one short barrel of red agate, one standard barrel of etched carnelian, one bud pendant of shell, one saw-cut disk of shell, and one gadrooned oblate of faience. The shell disk came from the debris to the west of the monastery; the other four from cell 23.

Coins. The coins numbered twenty-six and were all of copper. They comprised:

One punch-marked: obv. Standing bull, tree, etc.; rev. Solar symbol (from assembly hall). One Local Taxilan: obv. Lion and swastika; rev. Elephant (from courtyard depression). One Azes II, 'King on horseback and Zeus standing' (*ibid.*). One Kadphises I, 'Bust of Hermaeus and Heracles' (cell 17). One Kadphises II, 'Head of king' and defaced (debris, north side). Three Kanishka: viz. one 'Sun-god' (cell 3); one 'Buddha seated' (cell 31); one 'Metal-god' (west of mon., outside). Three Vāsudeva, viz. two 'Śiva and bull' (debris, north side); one 'Seated goddess' (cell 27). One Hormazd II, 'Bust of king and fire altar' (courtyard depression). Two Shāpur II, 'Bust of king and fire altar' (one from mon. courtyard, one from debris north side). Twelve Shāpur III, 'Bust of king and fire altar' (three from cell 28; one each from cells 21, 26 and 31; five from debris, north side; one from spoil earth). One later Indo-Sasanian, 'Standing figure and three parallel lines' = R.U.C. (ch. 39), no. 343 (passage between cells 20 and 31).

Chapter 20. JAULIĀÑ[1]

Situation

The *saṅghārāma* of Jauliāñ is perched on the top of a hill some 300 ft. in height, which is situate rather less than a mile north-east of Mohṛā Morādu and half that distance from the village of Jauliāñ. The hill forms part of the spur which ends towards the west in Hathiāl and, like all the hills in this neighbourhood, is composed mainly of a hard limestone rock, in the cleft and jagged slopes of which grow the wild olive, *phulai* and *sonattha* shrubs. A little to its north is a somewhat lower ridge, and beyond this the broad valley of the Hāro, the stony bed of which shows as a grey streak in the distance. On the other three sides are higher eminences forming an integral part of the main spur, with here and there, on their summits or in the depressions between, the buried remains of other Buddhist settlements. To the south, this girdle of hills is broken by a narrow ravine, through which a rough track leads to the village of Khurram and the Dharmarājikā Stūpa; westward, another and easier path leads up the valley to the stūpa of Mohṛā Morādu; while a third, in a north-westerly direction, takes us across the open country to Nikra and, half a mile further on, to the ruined city of Sirsukh. It is easy to understand how attractive this site must have been to members of the Buddhist *saṅgha* eager to enjoy the advantages of its dominating position with its wide expanse of view, its calm seclusion, and, above all, its cool and dustless air, but no less eager perhaps to keep in close touch with their devotees in the great city where their daily alms would be begged. One drawback only would there be to the situation, namely, the difficulty of carrying up their water supply; but this was a difficulty which, as we have already seen, never deterred the Buddhists from establishing themselves in remote and sometimes almost inaccessible places. Doubtless, they required no great quantity of water for their needs, and possibly they could count on their devotees giving them help when they made their pilgrimages to the hill-top. There were novices, too, in the monastery, and possibly slaves as well, one of whose functions would naturally be the fetching of water. In any case, the difficulty in ancient days was not as great as now; for at the southern foot of the hill there were, until a generation ago, the ruins of several old wells, no doubt contemporary with the monastery, which have now been closed in and ploughed over by the cultivators.

Water supply

Plan of monuments

The monuments now brought to light on the hill-top derive an exceptional interest from their remarkable state of preservation, many of them having apparently been but lately erected and the rest but lately repaired and redecorated when they

[1] An exhaustive description of the remains at Jauliāñ is given by the author in ***The Stūpas and Monasteries of Jauliāñ***, Memoir no. 7 of the Archaeological Survey of India. Incorporated in the Memoir is a dissertation by A. Foucher on the stucco decorations and a study by Prof. Ramaprasad Chanda of the half-burnt manuscript of birch-bark found in cell 29 of the monastery.

were overtaken by the catastrophe which resulted in their burial. Their plan will be clear from Pl. 101. They comprise a monastery of moderate dimensions and by its side two stūpa courts on different levels—the upper to the south, the lower to the north—with a third and smaller court adjoining them on the west. The main stūpa stands in the upper court, with a number of smaller stūpas closely arrayed on its four sides and with lines of chapels for cult-images ranged against the four walls of the court and facing, as usual, towards the stūpa. Other stūpas and chapels, similarly disposed, stand in the lower and smaller court. The monastery, which is designed on the same lines as the one at Mohṛā Morādu, contains an open quadrangle surrounded by cells, besides an ordination hall, refectory and other chambers.

Access to this complex of buildings was provided by three entrances: one near the north-west corner of the lower court, a second at the south-east corner of the upper court, and a third on the eastern side of the monastery. At each of these approaches one or more flights of narrow steps led up the steep incline, but of these flights only five of the original steps have survived at the north-west corner, twelve at the south-east and five on the east. They are constructed of solid limestone blocks, like the steps leading to the second floor of the monastery. The north-west entrance was subsequently closed up by a wall of somewhat poor construction, the space thus enclosed being converted into a chapel. For the convenience of visitors it has now been opened out again, and serves as the normal entrance for those coming from the Nikra side. Entrances

In the construction of the buildings two chief varieties of masonry are readily distinguishable. One of these is a large coarse diaper which marks the transitional stage between diaper and semi-ashlar and is characterised by the use of relatively large stones, sometimes roughly squared, to fill the interstices between the bigger boulders. It was in vogue in the second century A.D. and occurs in numerous buildings at the Dharmarājikā, Khāḍer Mohṛā, Kālawān, etc. At Jauliāñ, this masonry is found in all the older parts of the walls of the monastery and in the lower courses of the wall immediately to the east of stūpa D 6, as well as in the main stūpa, where, however, it was to a large extent afterwards repaired with semi-ashlar (Pls. 102, 106, *a* and 110, *f*). The other variety is the familiar semi-ashlar work which has been repeatedly noticed in connexion with many of the buildings at the Dharmarājikā, Kālawān, Giri, etc. Here, at Jauliāñ, it is used in all the chapels and most of the smaller stūpas, and in the later repairs and additions to the monastery, as it is used also at Mohṛā Morādu (Pls. 103, *b*, 108, *c*, etc.). In both varieties the hard local limestone quarried on the hill of Jauliāñ itself was used for the larger blocks as well as for the infilling of smaller chips; and in both varieties the core of the wall was composed of loose rubble. Mud served as a binding material in place of lime-mortar, and the surfaces of the walls were protected by a coating of plaster made either of mud or of lime and river gravel (*bajrī*), the latter being reserved as a rule for the exposed outer faces of the structures, and the former for the inside of rooms or verandas, and especially for the dwelling-chambers of the monks. Masonry

In the semi-ashlar work of the stūpas, kañjūr stone, let in between the limestone blocks, is used for the mouldings and pilasters, and in some of these monuments, where the decoration is more than ordinarily elaborate, kañjūr alone is used for the facing. In many parts of the buildings the foundations of the walls rest on the natural rock. In cell 16 of the monastery, for example, they descend to a depth of 7 ft. below the floor-level, of which the first 2 ft. 6 in. is dressed stone and the rest rubble.

Of the age of the semi-ashlar masonry there is no question. On other sites of Taxila it was in use, as I have already shown, from the second until the fifth century A.D., if not longer, and at Jauliāñ there is conclusive evidence, as we shall presently see, to show that some of the semi-ashlar structures here are assignable to the fifth century, though others are doubtless older. The older kinds of this semi-ashlar work are, as a general rule, distinguishable by the thinness of their ashlar courses and by the relative smallness of the stones in the interspaces between the boulders, which approximate to those found in the preceding diaper work.

Besides these two main varieties of masonry, there is a third and later kind, which is found only in two short pieces of walling in front of the chapel B27 on the north side of the upper court. It is somewhat similar to small diaper work and may have been a conscious imitation of it, but it is not constructed with anything like the skill exhibited in most of the earlier work.[1]

Floors In the upper stūpa-court the floor was of concrete (*bajrī* and lime) covered with lime plaster, three successive coats of which indicate that the floor had thrice undergone repairs. A few traces of the ancient plaster may still be seen on the stairway of the main stūpa. What remained of it on the floor of the court was in too fragile a state to be preserved, and has had to undergo repair. The steps, also, leading from the lower to the upper court, though constructed of dressed limestone blocks, seem to have been plastered in the same manner and painted red, but whether similar paint was applied over the whole surface of the courts is uncertain.

In the lower stūpa-court the floor was paved with rough limestone blocks and brought to an even surface by a coating of lime plaster. For purposes of drainage both the upper and lower courts have had to be slightly regraded, and modern drains constructed in front of the chapels.

In the monastery area, the open quadrangle and the outside edge of the surrounding plinth to a width of some 6 ft. had a rough pavement of limestone; the floors of the rest of the plinth and of the cells were of mud and small gravel (*bajrī*) well rammed, and the floor of the image-chapel was of the same materials but coated with lime plaster.

Roofs Modern roofs have been put over the stūpas and some of the chapels in order to protect the sculptures, but in old days the stūpa-courts were open to the sky, and the only roofs were those over the chapels and cells. In both cases they appear to have been of timber secured by iron bolts and covered with a thick layer of mud. Masses of this mud covering, sometimes burnt to terra-cotta by the fire which

[1] For similar masonry at Akhaurī, *vide* p. 316.

consumed the buildings, were found on the floors of the monastery and chapels, and mingled with them were many of the iron bolts and nails belonging to the roof.

Main stūpa: design and construction

Though of smaller dimensions, the main stūpa at Jauliāñ must have been very similar in appearance to that at Mohṛā Morādu, consisting, like it, of an oblong plinth approached from one end by a long flight of steps and surmounted by a cylindrical drum and dome, the whole embellished with plaster reliefs and crowned by the indispensable umbrellas, which symbolise the world sovereignty of the Buddha. Much of the superstructure—including the dome and all but the lowest course of the drum—has now disappeared, but the lofty plinth is still standing almost to its full height and some portions of its stucco decoration have been preserved. The core of the structure is of rubble and its facing of late transitional diaper repaired with semi-ashlar, with kañjūr blocks let in for mouldings and pilasters (Pls. 105, *a*, *c*; 106, *a* and 108, *a*). The original fabric dates from early Kushān times (second century A.D.), but the semi-ashlar repairs as well as the plaster reliefs are some three centuries later, when the whole edifice was completely renovated. The mouldings at the base are of the usual *torus* and *scotia* pattern, but it is worthy of remark that the lowest *torus*, both in the continuous base which runs round the whole structure and in the bases of the individual pilasters, is finished off in bevelled facets, while the other mouldings are rounded (Pl. 106, *a*). The figural decoration on the south, east and west sides of the plinth consists of a seated colossal Buddha in the *dhyāna-mudrā* occupying the bay between each pair of pilasters, and of smaller Buddhas seated, one above the other, on the face of the pilasters (Pls. 105, *a*; 109, *h* and 154, *a*). All these figures, large and small, are of a relatively late date (*c.* fifth century A.D.) and demonstrably more modern than the body of the stūpa. This difference between the age of the rilievos and the body of the monument is evident from the clumsy fashion in which the larger figures have been applied to the face of the walls by filling the hollows between the horizontal base-mouldings with small stones and mud, building up a base of the required size (generally of the same materials) and finishing off with a coat of coarse lime plaster. Notwithstanding the late age, however, at which they were produced, they are not without dignity and charm (cf. 'Stucco Sculptures', ch. 26, no. 40 and Pl. 154, *a*). The bodies of the larger figures, it is true, are rude and cumbersome, coarsely fashioned on a core which is mainly composed of kañjūr blocks and mud, with a not very thick covering of lime plaster, but the colossal heads, of which seven more or less intact and others broken were found reposing on the floor, were of excellent stucco finished with slip and paint and modelled with both skill and feeling (Pl. 105, *b* and 'Stucco Sculptures', nos. 49 and 50 = Pl. 149, *m* and *n*).

Figural decoration on south, east and west sides

Figural decoration on north side

On the north side of the stūpa, to the west of the ascending stairs, are the remains of two Buddhas in a standing posture with smaller seated figures in front of their pedestals (Pl. 106, *a*). One of these standing Buddhas (to the west) had slipped from its place on the wall and was resting at an angle above the base mouldings. Its drapery is strikingly schematic and wooden and distinguished by a conventional

treatment of the folds falling from the right arm, which in this position are unnatural. In one of the corresponding bays on the eastern side of the stair is a seated Buddha with a round hole at the navel (Pl. 105, *c*) and on the pedestal below an *ex-voto* inscription in Kharoshṭhī characters[1] (Pl. 109, *a*): *Dharmaṇadisa Budhamitra* (*sa bhikshusa danamukho*) 'Gift of the friar Buddhamitra Dharmanandin'. The hole at the navel was probably intended for a suppliant to place his finger in, when offering up prayers for recovery from certain bodily ailments; for a similar custom still obtains in Burma. To the sides and at the end of the stepped approach to the stūpa are the remains of several seated Buddhas of varying sizes but devoid of any special interest.

Subsidiary stūpas: design and construction

Of the small subsidiary stūpas there are twenty-one set in close array in the upper court, five in the lower and one in the western court. In their essential features they are, as might be expected, diminutive copies of the larger edifice, but they differ from it in the decoration and shape of their plinths, which were square in plan instead of oblong (since standing space was not required in front of the drum) and usually enriched with more elaborate ornament. In every case the core of these buildings is of rough rubble, faced as a rule with soft kañjūr stone in which the main features of the decoration are blocked out and then finished off in lime stucco, the details of the architectural members and the reliefs being modelled throughout in stucco. In the stūpa A15 (Pl. 155, *b*) the plinth is faced with large diaper masonry similar to that employed in the older parts of the main stūpa and monastery, and it is likely that this is one of the earliest among the small stūpas, although it was redecorated at a later age. In the majority of the others the base is of semi-ashlar limestone masonry, and where relic chambers occur (viz. in nos. A11 and D5), they also are built of the same masonry. The combination of limestone and kañjūr in these and other buildings at Taxila is dictated merely by considerations of convenience, limestone being preferred for its durability, and kañjūr for the ease with which it could be fashioned to any desired shape. The domes had in every case perished, but some remains of the *harmikā* and umbrellas with which they were crowned were found in the debris of the courtyard.

Decoration

The scheme of decoration on the plinths of these stūpas, although as a rule richer and more intricate than that on the main structure, is not uniformly so. In one instance (A15) it consists only of a series of figures of Buddha in the *dhyāna-mudrā* applied to an otherwise perfectly plain background ('Stucco Sculptures', ch. 26, no. 41 and Pl. 155, *b*). In two other cases (A2 and A20) the Buddha figures were separated one from the other by Corinthian pilasters, just as they were on the main stūpa, but here the pilasters are of thicker and more stunted proportions, resembling in this respect the decoration on contemporary stūpas at Sārnāth and other sites in Hindustān (Pl. 104, *b*). But the majority of the stūpas are treated in a far more elaborate fashion. Typical examples are A16, D4 and A11. The two first are described in detail in chapter 26 (nos. 43–8 and Pls. 154, *b*, *c*; 156, 157), to which the attention of the reader is invited. In the third example (A11 =

[1] Cf. *Jauliāñ Memoir* (no. 7 of the Archaeological Survey of India), Pl. XI, *a*; *C.I.I.* II, pp. 93–4, no. 1.

Pls. 105, *a* and 155, *d*) the decoration is more varied. The lowest tier is adorned with a series of seated images, four on the east and four on the west side. On the east, the figures are of Buddha in the teaching attitude alternating with Bodhisattvas, of which the one at the northern corner is shown by the flask that he holds in his left hand to be Maitreya (cf. 'Stucco Sculptures', no. 42 and Pl. 155, *d*). On the west side are one Buddha and three Bodhisattvas (Pl. 110, *c*). Above these images is a row of Atlantes alternating with lions. The next tier is relieved by a series of Buddhas seated in niches with attendants on either side, separated one from the other by stunted Corinthian pilasters. In the third tier are Atlantes, alternating with the forefronts of elephants, and above these, again, is another series of Buddhas or Bodhisattvas, like those in the second tier. At the top of the plinth is another row of niches divided by Persepolitan instead of Corinthian pilasters, and over this, again, other tiers on the circular drum, which, so far as can be judged from what remains of it, was enriched in much the same way as the plinth.

In the relic chamber of this stūpa was a casket of a somewhat bizarre and novel type. The chamber itself was 10½ in. square and 3 ft. 8½ in. high, constructed of dressed limestone blocks, coated inside with lime plaster, and closed at the top and bottom with limestone slabs. The casket (Pl. 110, *a*) stands 3 ft. 8 in. high and takes the form of a stūpa of slender proportions and highly conventionalised shape. It is fashioned out of ordinary lime plaster, finished with blue and crimson paint, and bejewelled round the dome with gems of garnet, carnelian, lapis-lazuli, aquamarine, ruby, agate, amethyst and crystal, cut in a variety of shapes and arranged in several simple patterns. The workmanship of this curious casket is undeniably coarse and barbaric, but there is a certain quaint charm in its design as well as in the bright and gaudy colouring of the inlaid gems. Down the body of the miniature stūpa runs a hollow shaft, at the bottom of which were the decayed fragments of a small wooden casket, once held together by four iron nails. Relic caskets from A 11

Inside this wooden casket were some pieces of lapis-lazuli paste, ivory, gold-leaf, rock crystal, beads of gold, green vitreous paste, and coral, and a smaller round casket of copper gilt (diam. 1·37 in.), and in the latter was a still smaller cylinder of the same material containing a little dark-coloured dust. The metal casket and cylinder are illustrated in Pl. 110, *d*.

In stūpa D 5 also, which is situated in the lower court, there is an unusually large relic chamber, divided into two sections, the upper square in plan with a depth of 1 ft. 9 in., and the lower circular with a depth of 4 ft. 6 in. (Pl. 101, inset). But whatever relic this chamber may have contained had long since disappeared. This stūpa (D 5) is adorned on each face with four Corinthian pilasters and three seated Buddhas in the bays between. On the front of each pilaster is a smaller figure of the Buddha, which appears to have been a later addition. From D 5

In stūpa A 16 (now in the museum) there was no relic chamber, but a very rough and primitive kind of casket laid simply in the rubble core of the plinth. The casket consists of a cylindrical piece of kañjūr (height 5·37 in.) with a small hole at one end, closed by a kañjūr plug. Inside the hole was a miniature earthenware From A 16

vessel (height 2 in.) containing two small copper cylinders, one within the other; and inside the smaller one a gold cylinder (length 0·37 in.) containing some fragments of bone. Along with the copper cylinders were two copper coins of Vāsudeva, one of the 'Śiva and bull' type, the other of the 'Seated goddess' type (Pl. 110, *e*).

Kharoshṭhī inscriptions

Another feature of interest presented by these stūpas is the presence of inscriptions in the Kharoshṭhī script on the plinths of A 15 and D 5. The inscriptions on the former occur on all four sides of the structure and read as follows:

A 15

EAST FACE. On the common base of three seated Buddhas in *dhyāna-mudrā*, towards north end (Pl. 155, *b*). The first word is at the right end of the base (Pl. 109, *b*) and the remaining three at the left end, showing that all three reliefs were the gift of the same donor. The reliefs are *appliqué*, the body of each figure having apparently been applied first, then the halo and then the head, the whole being subsequently covered with a slip:

Saghamitrasa Budhadevasa bhiksh(u)sa danamukho[1]
'Gift of the *bhikshu* Budhadeva Saṁghamitra (friend of the Order).'

The name Saṁghamitra may have been an honorific title conferred on Budhadeva by the community of monks.

SOUTH FACE.

(*a*) Beneath seated Buddha at the east corner:
Budharakshi(dasa) bhi(kshusa) da(namu)kho[2]
'Gift of the friar Budharakshita'

(*b*) Beneath seated Buddha next to the above:
Dharmamitrasa bhiksh(usa na)garaka(sa) danamukho[3]
'Gift of the friar Dharmamitra of Nagara' (Pl. 109, *c*).

WEST FACE. Beneath small Buddha in teaching attitude seated on lotus at north end:
Shamanamitrasa[4]
'(Gift) of Śramaṇamitra.'

Śramaṇamitra is probably another title, like Saṁghamitra, conferred on one of the donors.

NORTH FACE.

(*a*) Under second figure from west end:
Dharma(bhutisa) (bhi)kshusa (danamu)kho[5]
'Gift of the friar Dharmabhūti.'

(*b*) Beneath central figure:
Ra(hu)lasa v(e)nae(i)asa bhikshusa daṇamukho[6]
'Gift of the friar Rahula versed in the Vinaya' (Pl. 109, *d*).

On stūpa D 5 some of the inscriptions are invested with additional interest, as they contain the designation of the images beneath which they are inscribed, though, unfortunately, both the images and the inscriptions are in a sadly damaged condition. Each of the four faces of the stūpa is divided into three bays by Indo-

[1] *C.I.I.* II, pp. 94–7, no. 2.
[2] *Ibid.* no. 4.
[3] *Ibid.* no. 5.
[4] *Ibid.* no. 3.
[5] *Ibid.* no. 6.
[6] *Ibid.* no. 7.

Corinthian pilasters of somewhat slenderer proportions and with more ornate capitals than is usual in these stūpas. In each bay is seated a Buddha, seemingly in the *dhyāna-mudrā,* and smaller figures in the same attitude adorn the shafts of the pilasters. The plinth appears to have undergone renovation and some of the images may be later than the background to which they are applied.

EAST FACE. Beneath seated Buddha in central bay:

'. . . *daṇamu(kho)*'[1]
'The gift. . . .'

SOUTH FACE.

(*a*) Beneath central figure:

(Ka)śavo Tathagato sa . hasaśa[2]
'The Tathāgata Kāśyapa' (Pl. 109, *e*).

The two letters *śavo* are visible only on the lower layer of plaster, the top coat having been broken away; they do not appear on the estampage.

(*b*) Beneath figure in west bay:

(da)ṇamu(kho)[3]
'The gift. . . .'

WEST FACE.

(*a*) Beneath figure in central bay:

Kaśavo Tathagato[4]
'Kāśyapa Tathāgata. . .' (Pl. 109, *k*).

(*b*) Beneath figure in northern bay:

Śakamu(ni) Tathagato Jinaeśa
daṇa(mukho)[5]
'Śākyamu(ni) Tathāgata, lord of Jinas—a gift' (Pl. 109, *g*).

Although the information they contain is meagre enough, these records are of considerable value for the history of the Kharoshṭhī script in India. Hitherto it has generally been supposed that Kharoshṭhī was evolved in the North-West about the third or fourth century B.C., and that it passed out of use in the third century A.D. (cf. Rapson, *Ancient India,* p. 18), though it is known to have survived for some time longer in Chinese Turkestān. But it is now evident that the date of its disappearance from India must be advanced by some two centuries. The masonry of the square plinth of stūpa A15 is rough diaper, but the round drum above is semi-ashlar, and it seems clear that the stūpa was partially rebuilt and at the same time redecorated, perhaps when the neighbouring chapels were constructed. In any case, the freshness of the inscriptions on both stūpas and of the plaster reliefs to which they appertain leave no doubt that they had not long been executed when they were buried from view, and inasmuch as the latter event cannot be placed earlier than the second half of the fifth century A.D., it follows that the earliest date

[1] *Ibid.* no. 8.
[2] *Ibid.* no. 9.
[3] *Ibid.* no. 10.
[4] *Ibid.* no. 11.
[5] *Ibid.* no. 12.

to which we can assign the inscriptions is about the beginning of the same century. Doubtless at that time Kharoshṭhī was still the ordinary script of the townspeople of Taxila, just as Prākṛit was their ordinary vernacular, and it need not surprise us that the common speech and the common script were employed in donative records intended to be read and understood by all and sundry who might see them.[1]

Chapels: plan and construction

The practice among the Buddhists of enclosing their stūpa-courts with rows of chapels has long been familiar to us from Jamālgaṛhī, Takht-i-Bāhī, and other contemporary sites in the North-West. Sometimes, as at Jamālgaṛhī and at the Dharmarājikā Stūpa of Taxila, the chapels were arranged in a circle immediately around the chief monument. At other times, as at Takht-i-Bāhī and at Jauliāñ, they were planned in the form of a quadrangle sufficiently large to enclose, not only the chief edifice but all the subsidiary structures grouped around it. So far as our evidence goes, the circular lay-out appears to date from the first century of our era, and the quadrangular, which is the more developed of the two and has eminent advantages over the circular, from a substantially later age. Chapels of this kind would not, of course, be needed until cult images of the Buddha had come generally into fashion, and in the North-West this did not happen before the first century A.D. Here, at Jauliāñ, all the chapels are constructed of semi-ashlar masonry and were erected long after the main stūpa, those around the upper court probably coming first, and the others later on. That they are posterior, not only to the main stūpa but to the majority also of the smaller stūpas in the upper court may be inferred from the alignment of those numbered B18 to B21 near the south-west corner, which have been pushed back in order to permit of a free *pradakshiṇā* passage around the stūpas A14 and A15; for, had the stūpas in question not already been in existence when the chapels were erected, it is obvious that the alignment of the latter would have been symmetrical on all four sides of the court. On the other hand, the irregularity in the plan of the lower court is due to the shape of the hill-top, the chapels on the northern side following the edge of the plateau, instead of forming a right angle with those on the east.

Date

The total number of chapels in the three courts appears to have been fifty-nine, namely, thirty-one in the lower and western courts and twenty-eight in the upper, in addition to two at the entrance to the monastery and one inside it, but the number in the upper stūpa-court is not quite certain, since all except one on the south side had collapsed down the hill-side, and owing to the variation in the size of the others it is not possible to compute their number with precision.

Roofs

Their roofs, as indicated above, were constructed, like those of the monastic cells, of timber protected by a layer of earth. So much is evident from the remains of charred timber and clay found on their floors. On the other hand, it may be taken for granted that, in consonance with the more decorative character of their surroundings in the stūpa-courts, they were more ornate than the quarters of the

[1] Prof. Konow (*ibid.* p. 93) suggests that 'some of the inscriptions are copies of older ones, executed when the old images and decorations were restored or repaired'. But I can find no factual evidence to support this hypothesis.

monks, though what form this ornamentation took there is now, unfortunately, no means of ascertaining, and it would perhaps be idle to speculate on the point.

Of the images which stood within the chapels, the only traces now surviving in the upper court are the two pedestals of rough rubble in B 2 and B 27. In the other courts the remains are more substantial. They comprise the following: Images

Chapel C 4. Torso and arms of a small Buddha figure, of lime-plaster, measuring 7·5 in. across the shoulders; much damaged.

Chapel C 15. Against the back wall are what appear to be remnants of three ladders side by side (Pl. 108, *c*). It may be surmised that they supported three figures: the central one of the Buddha, the side ones of Indra and Brahmā, and that the group represented the descent from the Trayastriṁśa heaven.

Chapel C 19. Against the back wall is a small but singularly well-preserved statuette of lime-plaster representing Buddha in the *dhyāna-mudrā*.[1] But its diminutive size and unusual position suggest that it is not now occupying the place for which it was originally intended.

In the porch of the same chapel (C 19) and against the north wall, Buddha seated on throne in European fashion, his feet resting on a footstool. Only the legs from the knees downwards and lower part of garment are preserved. The statue is of lime-plaster on a rubble core.

Outside chapel C 32. Against north wall, a similar figure to the one above. Only feet and hem of garment preserved. The feet measure 1 ft. 8 in. from heel to toe. Of lime-plaster on rubble core. Traces of red paint on garment.

Chapel C 33. In centre, remnants of a pedestal, probably of a stūpa, composed of rough limestone and kañjūr blocks. On the north, east and west walls are the remains of three larger and three smaller figures. The one in the south-east corner was of clay and has been reduced to a mere shapeless mass. The others are composed of lime-plaster over a core of mud and stone, and exhibit traces of red paint on the surface. The only noteworthy figure is 2 ft. 3 in. high and represents a Bodhisattva seated in the *dhyāna-mudrā* on a lotus, with free flowing draperies and heavy jewellery.[2]

Chapel C 34. On the base of the façade in front of this chapel is a row of stunted Corinthian pilasters with a frieze and dentil cornice above, decadent bead and reel mouldings, and Buddhas seated in the *dhyāna-mudrā* in the bays between the pilasters.[3] On the right jamb are two figures separated by a (?) lotus stalk (Pl. 106, *b*); the one to the left, standing on a *makara*, probably Gangā; the one to the right, perhaps a Yaksha. On the left jamb are remnants of two similar figures, the inner one of which also stands on a *makara*.

Chapels E 1 *and* E 2. These two chapels are situated between the lower stūpa-court and the monastery, immediately to the left of the entrance to the latter, and, thanks to the constricted space and the strength of the adjoining walls, contain the most perfectly preserved group of images on the whole site. The group in question ('Stucco Sculptures', ch. 26, no. 39) is in chapel E 1 facing towards the west (Pl. 155, *a*). In the centre is seated the Buddha in the attitude of meditation (*dhyāna-mudrā*) with a standing Buddha to his right and left, and two attendant figures behind. Of the latter, the one to his right is a monk carrying the fly-whisk (*caurī*); the other, as proved by his ornaments, is Indra, holding the thunderbolt (*vajra*) in his left hand. On the central image are still many traces of the red and black paint and of the gold-leaf with which it and doubtless the other figures also were once bedecked. All five figures are of lime-plaster, probably on a core of rubble and clay. Of the images in the bigger group which faced south in this chapel, most have disappeared, but three of the subordinate ones are left against the eastern wall. One of these, seated in the corner of the alcove at a height

[1] For illustration, see *Jauliāñ Memoir*, Pl. XII, *a*.
[2] *Ibid.* Pl. XIII, *a*.
[3] *Ibid.* Pl. XII, *c*.

of about 1 ft. 9 in. above the floor-level, is either a Buddha or a Bodhisattva. The other two appear to portray the donor and his son or servant, a youth carrying a basket of fruits and flowers (Pl. 138, *p*). The latter wears trousers and a long tunic reaching to his knees, belted at the waist and fastened on the left shoulder with loop-knot and buttons. The elder figure appears to wear the same kind of dress, but has an armlet on his left arm and a more ornate belt. On the wall behind the head of the attendant are the remnants of a lotus, full-blown. All three figures are of clay, which has been burnt on the surface to terra-cotta, and on the two standing figures are traces of red colouring (cf. 'Terra-cottas', ch. 24, no. 182).

Chapel E2. In centre, remains of robe of a standing image of lime-plaster, and, to its left, a smaller Buddha of Gandhara stone (Pl. 110, *b*). The latter is standing in the *abhaya-mudrā* and is 1 ft. 8·12 in. high. It is an indifferent specimen of Gandhāra work, of earlier date than the other figures in the chapel.

Materials used for images

From the above description of the images preserved inside the chapels it will be seen that, compared with those on the stūpas, their remains are singularly meagre, notwithstanding that the stūpas stood exposed in the open, while the chapels were roofed-in and well protected. The explanation of this phenomenon is to be found in the different materials of which the figures were generally made, according as they were intended for a sheltered or exposed position. Those on the stūpa walls were invariably of lime-plaster, which would better resist the effects of heat and rain. Those inside the chapels, on the contrary, were usually of clay, though here also they were occasionally made of the more costly and durable lime, as in the chapels E1, E2, C19 and C33, and occasionally of stone or metal. In the neighbourhood of Taxila there is, unfortunately, no stone suitable for sculpture, the only stone found here being a hard and refractory limestone which almost defies the chisel, and a soft kañjūr which was too coarse except for the roughest kind of carving, and was intended merely as a core to be finished in plaster. Hence it happens that the only stone sculptures found on this site are carved out of the familiar grey schist which came, as far as is known, from beyond the borders of Swāt. Metal, too, whether copper, bronze or silver, must have been too costly to be used often for this purpose. Clay, on the other hand, is a first-rate medium for modelling—far better, indeed, and more economical than lime-plaster, and durable enough so long as it is painted and protected by a roof, but doomed rapidly to fall to pieces when exposed to the rain; and its dissolution is hastened by the white ants eating their way through to the straw and chaff which were mixed with it for the sake of tenacity and strength. Indeed, had it not been for the heat of the fire which overtook the buildings at Jauliãñ and which was fierce enough to convert some of these clay figures into terra-cotta, not a single one of them could have been preserved to us. It is this same lucky circumstance that explains why the clay figures have perished so much more completely in the chapels of the stūpa area than inside or in the immediate vicinity of the monastery—the reason being that the chapels had only a single story and a small expanse of roof, and consequently there was much less wood to burn than in the monastery with its double story and broad verandas, and, as a result, the heat in the chapels was not great enough to turn the clay into terra-cotta.

Throne in front of chapel B 17

To the left of the entrance in front of chapel B 17 is a rather curious pedestal or throne (Pl. 107, *d*). It measures 4 ft. wide by 1 ft. 8 in. deep and is made of rubble finished with a thick coat of lime-plaster. Its two front corners are supported by lion-like legs of highly conventionalised type, by the side of which fall drapery folds also very stylised and belonging, apparently, to a cushion on the throne. At the back of the throne, simple floral and geometric patterns are roughly incised in the plaster, in imitation perhaps of embroidery. But there is no trace whatever on the plaster of any image, as there surely would have been, had such an image been of stucco or clay. On the other hand, the empty throne could hardly have been set up merely as a symbol of the Master's presence, as it might have been four or five centuries earlier; nor is it likely that it would have been placed in this position in the stūpa-court, if it had been intended as a *siṁhāsana* for a preacher, the normal and natural place for such a throne being in the monastery. Taking all things into consideration, therefore, the most likely explanation seems to be that it was intended for an image, and that that image was of metal or wood, or at any rate of some material other than stucco or clay.

Lotus in front of chapel B 28

Two other objects connected with the chapels which deserve notice are the stairway which ascends from the outer court between the chapels C 13 and C 14, and the remains of a bold lotus modelled in relief on the wall on the east side of chapel B 28. The latter is portrayed in conventional fashion as a full-blown flower with two small buds on the stalk beneath. From the centre of the flower, no doubt, sprang the figure of a Buddha or a Bodhisattva, but though this figure must have been portrayed, as such figures are always portrayed, seated or standing upright against the wall, the flower itself is, by a strange convention, shown full face and not, as would be more natural, in profile.

Stairway between chapels

The narrow stairway in the outer court is a curious enigma. It starts from a height of some 3 ft. above the floor-level of the court and, although the space is narrow, the steps do not extend right across from wall to wall, a small gap intervening between them and the wall on the eastern side, as if intended for some filling which has now disappeared. Moreover, the treads show no signs of wear, and the top of the stairway merely leads out on to the rocky hill-side. Evidently, therefore, it was never intended for use, but what its purpose was, must for the present remain an unsolved problem.

Monastery: court of cells

The monastery at Jauliāñ is very similar in plan to that at Mohṛā Morādu. The court of cells (F) has an internal measurement of about 97 ft. from north to south by 106 ft. from east to west, and consists, as usual, of a *chatuḥśālā* or quadrangle with an open depression in its centre and a line of cells fronted by a broad veranda on every side. The main entrance into the quadrangle is on the west, where it communicates with the lower stūpa-court (Pl. 109, *i*). On the opposite side is another doorway leading through chamber 15 to the assembly hall and the other common rooms (Pl. 102, *c*). On the north side of the court the small chamber numbered 8 on the plan served as a chapel, and next to it was a stairway giving access to the upper story. The rest of the chambers on the ground-floor, to the

number of twenty-six, served as cells for the monks, and as the monastery had two stories with, no doubt, a corresponding number of cells on the upper floor, it follows that there was accommodation in it for some fifty-two monks—that is, if one cell was allowed for each inmate. The cells vary in their dimensions and are somewhat irregular, the smaller ones measuring between 8 and 9 ft. square, and the larger ones at the four corners the same in width by twice as much in length. Their height was about 15 ft. 6 in. With the exception of no. 20, each cell is provided with one or two wall niches placed at a height of 4 or 5 ft. above the floor-level and closed with a pointed arch.

Windows

Windows are extant in twelve only out of the twenty-six cells, namely, in all the cells on the north side and in the four cells on the west side towards its northern end. With the exception of the one in cell 11, they are all of the same type, designed to admit a maximum of light with a minimum of heat. They are placed at a height of from 6 to 10 ft. above the floor-level and from the outside appear merely as narrow slits in the walls, 10 in. or so in width and a foot or more in height, but towards the interior the sides and bottom of the window are splayed out, as in the loopholes of a fortress. In cell 11 the opening is of the same dimensions externally and internally. Probably this particular window is of a later age, for the back wall of this cell has the appearance of having been rebuilt at some subsequent period —simultaneously, perhaps, with the north wall of the assembly hall, both having given way owing to the pressure of the hill-side at their back.

Doorways

In conformity with a practice observable in other Buddhist *saṅghārāmas* in the North-West and common also in the older buildings of Hindustān, the doorways of the cells were furnished with slightly sloping jambs and were strikingly low, their height, as they now stand, being no more than 5 ft., or, if allowance be made for the wooden lintels which once supported the masonry, not more than about 4 ft. 7 in., with a width at the bottom of about 3 ft. It is not certain, however, that these were their original dimensions, since the casings of small and neatly cut stones embedded in mud and plastered over, into which the wooden frames were fixed, are later additions. The grooves for the wooden door-frames and panelling are 3 to 5 in. in width and a little less in depth. Many of them were still filled with the charred remains of the old wood.

Walls and floors

The walls of the cells, inside and out, were plastered with mud and probably colour-washed. The floors are of *bajrī* and mud well rammed, and are raised a little above the level of the veranda outside, the thresholds being of roughish limestone blocks sometimes projecting a few inches beyond the face of the wall.

Store-jars etc.

Inside some of the cells, viz. nos. 1, 2, 4, 6, 10, 12, 13, 14, 26, 28 and 29, were a number of capacious store-jars and water-vessels, which have been left on the spots where they were found (cf. Plan, Pl. 101, on which their positions are shown). These vessels are of the usual types and there is nothing in their shape or fabric that calls for special remark.

Alcoves

In front of some of the cells and facing on to the veranda were small alcoves containing groups of figure-sculptures (Pl. 103, *a*). Of such alcoves there were

four on the west side of the court in front of cells 1, 2, 27 and 29, and one on the east in front of cell 17. They are of varying dimensions, the largest in front of cell 29 having a width of 4 ft. 7 in., and the smallest in front of cell 17 a width of 2 ft. 2 in. Most of them are too much damaged for their shape to be made out with certainty, but the one in front of cell 27 appears to have been quadrilateral, with sloping sides and a flat top; the others may have been of the same form or closed with an arch above. Inside the alcoves are the following groups of figures fashioned in clay and finished with a slip, white limewash, paint and gilding. The preservation of the figures is due to the clay having been partially converted into terra-cotta when the monastery was burnt down.

Alcove in front of cell 1. Image of Buddha in (?) teaching attitude, seated on throne supported at corners by kneeling Atlantes. On each side, two attendant figures, of which the front ones are badly damaged. Of those behind, the one to the left of the Buddha is a female wearing hair ornaments and wreath; the other, to his right, is probably a male, having his hair adorned with a simple fillet and medallion. The free flowing draperies of the central figure are worthy of notice. (*Jauliāñ Mem.* Pl. XVI, *a*.)

Alcove in front of cell 2. Buddha seated in *dhyāna-mudrā* on throne. To his right, four figures, of which the front one may be the donor, with his wife (a much smaller figure) beside him. Behind, is a standing robed figure of which only the lower part survives, and above it a small seated Buddha much mutilated. To his left, in front, the figure of a monk, corresponding to the donor on the opposite side. Behind, a monk erect and in the attitude of prayer, and above him Indra(?) holding a fly-whisk (*caurī*) in his right hand and wearing a jewelled head-dress, armlets, etc. The donor's figure bears traces of gilt. Much damaged by white ants. (*Jauliāñ Mem.* Pl. XVI, *b*.)

In front of cell 17. In centre, seated Buddha in teaching attitude. To his right and left, in front, lower parts of two standing figures, male to right and female to left. Behind them, remnants of other smaller figures.

In front of cell 27. The figures from this alcove have disappeared.

In front of cell 29. In centre, Buddha standing, seemingly in the *abhaya-mudrā*. Of subordinate figures to right and left there appear to have been twelve, but several of them have perished (Pl. 139). Of the surviving ones the most striking is the male figure of medium size to the right of the Buddha, wearing tunic to knees, trousers with buttons for lacing, ornamental belt and cap. The dress and bearded head of a peculiarly distinctive type clearly prove him to be a *mleccha*. Between this figure, who is no doubt the donor, and the Buddha is his wife—a small figure with long robe and ornaments. To left of the Buddha is a standing figure, probably of a monk, wearing *saṅghāti*. Above, to right and left of the Buddha's head, are two *devas* standing on lotuses. The other figures are much mutilated ('Terra-cottas', ch. 24, no. 181 and Pls. 139 and 138, *o*).

Besides the alcoves sunk into the façade of the cells there is an erection of semi-ashlar masonry, now much ruined, in front of cell 25, which no doubt supported another alcove or served as a pedestal, like those in the monastery of Mohṛā Morādu, for an image. Pedestal in front of cell 25

The chapel in chamber 8, near the middle of the northern side of the court, is smaller than the adjoining cells, and must have been designed in the first instance for the reception of images. Originally, there appear to have been thirteen figures in it, of which remnants of eight have been preserved. All are composed of clay Chapel

and all are partially burnt, but the chapel was too small and the figures were too numerous and too bulky for the heat to penetrate through them, and as a consequence they are not so well preserved as in the alcoves of the open veranda. One of the figures against the east wall appears to be Maitreya holding a flask in his left hand. The clay casing of the door-frame is decorated with foliate designs consisting, apparently, of a meander pattern relieved by half-lotuses.

Stairway

Next to the chapel, on its eastern side, is the stairway leading to the upper story. A more convenient place for it would have been in the immediate vicinity of the entrance, from which point the inmates could have passed directly to their cells on the upper floor; but there must have been some special reason for placing it where it is, and I suggest that the explanation may be that on entering the monastery the monks made a practice of paying their devotions, in passing, at the chapel before going to their cells, and perhaps repeated the devotions when leaving the monastery.

At the foot of the stair and immediately to the left of the entrance is a recess in the wall—probably intended for a group of figures—the rubble infilling in which is of a late date.

The stairs were divided into two flights, with six steps in the lower and nine in the upper, and the passage-way which connected the stairs with the upper veranda was returned again at right angles to the upper flight. Possibly there was a second chapel above the ground-floor one, but more probably the latter occupied the full height of both stories. It would have been contrary to Buddhist practice to construct a cell for habitation over the holy images.

Upper floor and veranda

The walls of the cells in the upper story were of masonry, like those below them, but timber was employed for the floor between the two stories, including that of the veranda, as well as for the pillars supporting the latter and for the roof. Probably the pillars were of the Persepolitan or Indo-Corinthian order, like those so frequently portrayed in contemporary sculpture, and carvings in keeping with them would doubtless have adorned the cornices or other members. The veranda itself appears to have been about 13 ft. wide.

Depression in courtyard

The depression in the middle of the court is a little over 1 ft. deep and provided with four sets of steps, one in the middle of each side. On its southern side a drain, passing beneath cell 21, carries off the rain water discharged into it from the roofs.

Bathroom

On a platform at the south-east corner of the depression is a small bathroom provided with entrances on its northern and southern sides and furnished with a drain on its west side, which discharges into the larger drain referred to above. The walls of the bathroom are of late semi-ashlar masonry and are now standing to a height of about 5 ft. Why there were two doorways in so small a chamber is not apparent.

Character of masonry

As already stated, the court of cells was originally built of the coarse variety of diaper masonry which came into vogue in the second century A.D., but extensive repairs and reconstructions, including the alcoves and image-pedestal described above were executed at a later date (mainly in the fourth to fifth century A.D.) in

semi-ashlar work. The assembly hall G (Pl. 102, *c*) also was originally built of the same variety of diaper as the court of cells and was extensively repaired, particularly on its north side, in semi-ashlar. On the other hand, the kitchen, refectory and other rooms (H–N) on this side of the monastery are of semi-ashlar from the floor-level upwards, and seem to have been later additions.[1] The identity of these rooms, it should be noted, is not altogether certain, particularly as it sometimes happened that the refectory and assembly hall were combined. But the presence of a drain leading from the central chamber J—a most useful adjunct for the cook and his scullions—and the discovery also of grindstones and mortars in this chamber suggest that it was a kitchen, with a small store-room (H) attached for the use of the cook; and, if this was so, then the chamber communicating with it on the south (M) may well have served as the refectory, to which another store-room (N) was attached for the use of the steward. This disposition of the several chambers finds a close parallel, as already indicated, in the contemporary monastery at Mohṛā Morādu, where this part of the buildings also underwent considerable modifications in ancient days. At Jauliāñ, the original monastery seems to have embraced only the court of cells and the assembly hall, all the other chambers being later additions. In the earlier days, therefore, it may be inferred that, in accordance with established rule, the monks depended for their food entirely upon charity, eating it forthwith from their begging bowls, and that it was only in the early medieval period that they developed the idea of possessing store-rooms and kitchens of their own, and of embarking generally on a more luxurious mode of life.

Assembly hall and other chambers

As the three largest in this group of chambers, namely the assembly hall, kitchen and refectory, were too spacious to be spanned by timbers from side to side, pillars had to be erected in each of them to support the roof beams. In the assembly hall (G) and in the refectory (M) the existing bases show that there were four such pillars disposed in a square in the middle of the hall, the architraves above them being laid probably in a corresponding square with diagonals from each pillar to the nearest corner of the room. In the kitchen (J) a raised stone plinth, near its middle and running from east to west, suggests that there were two pillars here carrying the roof timbers. As mentioned above, this room possesses a drain of rough limestone, besides several millstones and grinding slabs. In the small store-room (H) belonging to the kitchen is a raised bench of stone, about 1 ft. 5 in. high, running round three sides of the chamber. In the floor of the latrine (L), near the eastern entrance, is a square depression about 6 in. deep, paved with limestone flags. The small chamber K, with an open drain running across it, no doubt served as a scullery.

Minor antiquities

The minor antiquities from this site fall into two distinctive groups. On the one hand, there are those from the stūpa-courts, which, with few exceptions, consist of stucco heads, bodies, limbs and other figural and decorative pieces which once adorned the walls of the stūpas; on the other, are those from the monastery

[1] It should be noted, however, that the retaining wall under the south side of the refectory was originally of diaper masonry (Pl. 102, *d*) and that the superstructures may therefore be reconstructions.

precincts which consist in the main of vessels, utensils and objects of personal use belonging to the monks, tools, fittings, Buddhist emblems and coins, as well as a few heads and other fragments of half-burnt clay from the figural groups in the alcoves of the quadrangle. The stucco figures and other fragments which had fallen from the sides of the stūpas were in very great profusion, comprising over a thousand small heads besides many other parts of Buddha and Bodhisattva images, devas, monks, male and female lay-worshippers, Atlantes, animals, etc. The whole collection has been discussed at length by A. Foucher and freely illustrated in my *Jauliāñ Memoir*,[1] and here, therefore, I shall only draw attention to the few selected pieces (not including those still *in situ*)[2] which are described in the second volume of this work. These pieces are as follows:

Stucco reliefs from stūpa area

Stucco Sculptures (ch. 26). Nos. 51–4. Buddha heads (note no. 51 in particular; it is one of the most beautiful Buddha heads in existence). No. 55, upper part of Buddha image. No. 56, Bodhisattva head. No. 57, upper part of Bodhisattva image. Nos. 58, 59, female devotees. No. 60, upper part of male attendant. No. 61, head of male devotee. Nos. 62–8, figures and heads of Atlantes. No. 69, humped bull. No. 70, head of elephant. No. 71, head (?of Buddha) somewhat resembling a Roman portrait

Other objects from stūpa area

Apart from these detached stucco reliefs, the only small objects of interest found in the stūpa area were the following:

(*a*) Five Gandhāra sculptures of phyllite, viz.: (1) Bunch of celestial flowers with haloed Buddha in centre, from north side of stūpa D3 ('Stone Sculptures', ch. 36, no. 46). (2) Image of Buddha on lotus throne supported on elephant pedestal, with relief depicting *Samcodana* on front of pedestal; from lower stūpa-court (*ibid.* no. 94). (3) Elaborate representation of the 'Visit of Indra', from chapel C15 (*ibid.* no. 124). (4, 5) Two standing images of Buddha in *abhaya-mudrā*, from chapel E2 and debris on opposite sid. of monastery entrance, respectively (*ibid.* nos. 157, 160).

(*b*) An iron lamp, from chapel C5 ('Iron Objects', ch. 27, no. 31). Pipal leaf of copper, from in front of main stūpa steps, length 2·5 in.[3] Cylindrical reliquary of copper, length 0·62 in., from between stūpas A7 and A8.[4] Two ball bells of bronze with closed mouths, from in front of chapel C2 ('Copper and Bronze Objects', ch. 28, no. 352).

(*c*) Twenty-seven copper coins mainly of crude Indo-Sasanian types, with a few of Huvishka, Vāsudeva, Late Kushān and Sasanian rulers. See below.

Minor antiquities from monastery

Of the numerous small articles found in the monastery precincts, the following are the most noteworthy:[5]

Pottery (ch. 23). No. 25, narrow-necked squat flask, from cell 26. No. 45, water-bottle with side lugs, from cell 14. No. 61, bell-shaped pot with carinated base, from cell 3. Nos. 64, *b* and 68, spouted pots of *kuza* type, from mon. court. No. 123, carinated colander bowl, from mon. court. No. 147, inkpot, from cell 3. No. 190, basin-shaped cover for store-jar, from cell 10.

[1] Pp. 22–39, 42–51, and Pls. XIX–XXIII.

[2] The selected reliefs still *in situ* which are included in the descriptive list of 'Stucco Sculptures' (ch. 26), are numbered 39–50 of that list and are illustrated in Pls. 149, 154–7.

[3] *Jauliāñ Mem.* p. 53, no. 1.

[4] *Ibid.* no. 2.

[5] Others will be found described *ibid.* pp. 51–6.

Terra-cottas (ch. 24). No. 183, mask of Vajrapāṇi (?), from mon. court, south-west corner. Nos. 184 and 185, heads of children from mon. court, south-west corner. No. 186, bunch of pipal leaves, from in front of chapel 8.[1]

Iron Objects (ch. 27). No. 32, standard lamp with serpentine handle, from cell 21. No. 47, bell from mon. court. No. 70, socketed spear-head, from cell 3. No. 117, wry-necked adze head, from mon. court. Nos. 159 and 160, helmet-shaped door bosses, from mon. court. No. 166, door-hook, from mon. court. Nos. 170, 171 and 173, clamping irons, from mon. court. Nos. 178, 179, hinges, from mon. court. No. 181, *a*, chain links, from mon. court. No. 199, iron shoe for wooden spade, from mon. court.

Copper and Bronze Objects (ch. 28). No. 319, straining-spoon of copper, from cell 13. No. 351, bowl-shaped bell of bronze, from cell 25. No. 385, copper chain, from cell 2. No. 386, lotus bracket-lamp of copper, from cell 3. No. 394, staff terminal of bronze, from cell 25. No. 406, *dharmacakra* of copper, from cell 3. Nos. 410 and 411, two copper rosettes, from cells 25 and 29. No. 414, staff and umbrellas of copper belonging to a votive stūpa, from cell 25. No. 416, copper finial of votive stūpa, from cell 3. No. 424, bronze relief of Bodhisattva, from cell 21.

Jewellery (ch. 30). Nos. 95, *a–d*, four gold coin pendants, with tubular attachments, from cell 19. The coins are of the later Kushân period. Nos. 201 and 202, two cup-shaped ornaments from same cell as preceding.

Finger-rings (ch. 31). No. 1, plain hoop finger-ring of gold wire, from cell 19. No. 75, oval intaglio of chert with Brāhmī legend, *Śrī Kuleśvaradāse*, from cell 3.

Stone Sculptures (ch. 36). No. 197, panel with haloed Buddha, of phyllite, from niche inside cell 2.

Coins. The coins, which, apart from the four gold specimens attached to pendants, are described in detail in the *Jauliāñ Memoir*, pp. 58–65, number 126, *viz.* twenty-seven from the stūpa area and ninety-nine from the monastery and its precincts. Of the former, two coins of Vāsudeva ('Śiva and bull' type) were found in the relic chamber of stūpa A 16, and two of a governor of Shāpur I[2] ('Bust of king and fire altar' = R.U.C. ch. 39, no. 291) were lying at the side of stūpa D 5. There was also a group of ten Late Indo-Sasanian coins of crude fabric ('Standing figure and square within dotted border' = R.U.C. nos. 344–6) between stūpas A 11 and A 12. The rest of the coins from the stūpa area were found singly in the debris round about the ruined monuments.

Of the ninety-nine coins from the monastery and its precincts, fifty-one were found in six groups inside the cells, viz. fourteen in cell 1, four in cell 2, six in cell 3, three in cell 11, five in cell 28, and nineteen in cell 29. The contents of these groups were as follows:

From cell 1: one Kanishka ('Sun-god'), six Vāsudeva ('Śiva and bull'), seven Sasanian ('Bust of king and fire altar'; cf. R.U.C. no. 289 and *I.M. Cat.* XXIV, no. 5). From cell 2: one Local Taxilan ('Lion with taurine and swastika and blank'),[3] three Vāsudeva (two 'Śiva and bull', one 'Enthroned goddess'). From cell 3: one Soter Megas ('Bust of king and horseman'), two Vāsudeva ('Śiva and bull and enthroned goddess'), three Sasanian ('Bust of king and fire altar'). From cell 11: one Local Taxilan (same as from cell 2), one Kanishka ('Wind-god'), one Huvishka ('King on couch and standing deity'). From cell 28: one Kadaphes ('Head of Claudius (?) and king seated' = R.U.C. no. 249), two Vāsudeva ('Śiva and bull'), one Sasanian ('Bust of king and fire altar'), and one Late Indo-Sasanian ('Standing figure and four parallel lines' = R.U.C. no. 342). From cell 29: one Vāsudeva ('Śiva and bull'), fifteen Sasanian ('Bust of king and fire altar'), three Late Indo-Sasanian (two 'Standing figure and fire altar', one 'Bust of king and square in dotted border').

[1] For illustration, cf. *ibid.* Pl. XXV, *b*.
[2] A.D. 264–72.
[3] Cf. 'Coins', ch. 38, chart, p. 762, no. 21.

Of the remaining forty-eight coins from the monastery area twenty-three were found singly in the cells, thirteen in the courtyard, one in the assembly hall, one in the steward's room and ten in the debris outside the walls.

Including the coins noted above, the Jauliāñ collection comprises the following types. Four Local Taxilan (one 'three-arched *chaitya* and taurine' on obv. and rev.,[1] one indistinct and 'large taurine',[2] and two 'Lion with taurine and swastika and blank'.[3] One Apollodotus II ('Apollo and tripod-lebes').[4] One Gondophares ('Mounted king and Zeus Nikephoros').[5] Two Soter Megas ('Diademed bust of king and horseman').[6] One Kadaphes ('Head of Claudius (?) and seated king' = R.U.C. no. 249). Seven Kanishka (two 'Moon-god', two 'Sun-god', two 'Wind-god', one 'Nana'). Five Huvishka (one 'Seated king and Sun-god',[7] one 'King on elephant and Pharro'(?), three 'King on couch and standing deity'). One barbarous Huvishka, fragmentary (cf. R.U.C. no. 266). Thirty-seven Vāsudeva, including later imitations (thirty-one 'Śiva and bull' and six 'Enthroned goddess'). Eleven unidentified Kushān ('King at altar and indistinct'). Four Shāpur II ('Bust of king and fire altar'). Two Shāpur III (ditto). Three Hormazd II (ditto). One Varahrān II (?) (= R.U.C. no. 290). Twenty-four unidentified Sasanian or Indo-Sasanian ('Bust of king and fire altar' = R.U.C. no. 289). Seventeen late Indo-Sasanian (including the following types, namely R.U.C. nos. 338, 339, 342, 344, 350 and 353, and also 'Standing figure and crude fire altar'). Three uncertain, viz. one 'Petals and flower' on obv. and rev., one indistinct and 'Foliage'. One Chinese (?) (obv. letter inside circular line, rev. square depression in centre).

With two or three exceptions all the coins of the Vāsudeva type are late and decadent and in all probability were struck one or two centuries after Vāsudeva's death. Of the unidentified Indo-Sasanian coins several are restruck on Kushān issues. Six of these coins are illustrated in *I.M. Cat.* Pl. XXIV, no. 5, two *ibid.* no. 7, three in Cunningham, *Later Indo-Scythians*, Pl. IV, no. 9, and one *ibid.* no. 11. The later Indo-Sasanian pieces, which are crude in design and irregular in shape, date in all probability from the fourth and fifth centuries A.D.

Beads. The beads from Jauliāñ numbered twenty-five, as shown in the Table below.

Shape	Agate	Carnelian	Lapis-lazuli	Garnet	Crystal quartz	Shell	Bone	Faience	Terra-cotta	Glass, colourless	Glass, blue	Total
Spherical	2	5	1	1	—	2	—			—	1	12
Oblate	—	1	—	—	—	—	—	—	—	—	—	1
Barrel, standard	—	1	—	—	—	—	—	—	—	—	—	1
Barrel, flat hexagonal	—	—	—	—	1	—	—	—	—	—	—	1
Barrel, square	—	—	—	—	—	—	—	—	—	1	—	1
Disk	—	—	1	—	—	2	—	—	—	—	—	3
Cylinder	—	—	—	—	—	—	1	—	—	—	—	1
Faceted	—	1	—	—	—	—	—	—	—	—	—	1
Gadrooned	—	—	—	—	—	—	—	2	1	—	—	3
Spacer (flat drop)	—	—	—	—	—	1	—	—	—	—	—	1
Total	2	8	2	1	1	5	1	2	1	1	1	25

[1] Cf. 'Coins', ch. 38, chart, p. 761, no. 3.
[2] *Ibid.* no. 4.
[3] *Ibid.* no. 21.
[4] *P.M. Cat.* Pl. v, 353.
[5] *Ibid.* xv, 20.
[6] *Ibid.* xvi, 101.
[7] *Ibid.* p. 204, no. 186.

Four of the beads were found among the debris of the stūpas and twenty-one in the monastery precincts. Of the latter, a group of nine came from cell 3, four from cell 14, and two from cell 23; the rest were found singly. Those from cell 3 comprised six spherical beads of agate, carnelian, lapis, garnet, shell and blue glass, an oblate and a faceted bead of carnelian, and a bone cylinder; those from cell 14 comprised three spherical beads of carnelian and one disk of shell; and those from cell 23, two gadrooned beads of faience and terra-cotta.

Perhaps the most interesting of all the minor antiquities from the Jauliañ *saṅghārāma* were some fragments of a Sanskrit manuscript found in an earthenware vessel in cell 29. The manuscript, which was written on birch-bark, had been half-incinerated when the monastery was burnt down and thus rendered proof against the ravages of white ants, which otherwise would inevitably have destroyed the whole of it. Such of the fragments—they number fifty-three—as bear writing likely to yield any meaning, have been published by Prof. Ramaprasad Chanda in the *Jauliāñ Memoir* (pp. 66–75), and there would be little purpose in reprinting his article here. Three points, however, deserve to be noted. First, the writing, which is neatly and carefully executed in Gupta Brāhmī, closely resembles that on the Kasiā copper-plate from the Nirvāna stūpa, which has been assigned to the third quarter of the fifth century A.D., though some of the characters in the Jauliāñ MS. point to a slightly earlier date. Secondly, the Buddhist character of the text is indicated by a number of typically Buddhist terms such as *guṇabhakti-gandhitaḥ*, *abhiyōga*, *iryāpatha*, *gataspṛiha*, *bhikshu*, etc. Thirdly, the text appears to have been a narrative and not a didactic composition, and to have embodied a large number of verses, particularly in the Vaṁśastha metre.

To about the same date as this manuscript belongs the seal of chert found in cell 3 with the legend *Śrī Kuleśvaradāse* in Gupta Brāhmī characters. Neither the manuscript nor the seal were necessarily new at the time when the monastery was burnt down, but both they and the coins, which, as we have seen, consist largely of debased Indo-Sasanian types reaching down into the fifth century A.D., point to the same conclusion, viz. that the destruction of this *saṅghārāma*, like all the other Buddhist *saṅghārāmas* in the neighbourhood, took place in the latter part of the fifth century A.D. and was in all probability attributable to the White Huns, who were then sweeping over the north-west of India.

Chapter 21. LĀLCHAK

Position of remains

BETWEEN one and two hundred yards from the north-east corner of Sirsukh and on the pathway to the village of Gaṛhī Sayyadān was a group of four small mounds known locally as Lālchak.[1] These four mounds covered the remains of a small and insignificant Buddhist settlement comprising a monastery, stūpas and chapels. The monastery, which is on the northern side of the site, is standing to a height of between 7 and 8 ft. above the ground-level and contains a vestibule in front, four chambers for habitation leading off from it, and a small apartment on the west side, which probably served as a store-room (Pl. 112). The entrance is in the middle of the southern side and is approached by a flight of four stone steps. A second stairway, also of stone, led from the vestibule to the upper story, which has now perished (Pl. 113, *b*). The foundations of the walls descend to a depth of 3 ft. 6 in. below the interior floor-level, and from the top of the plinth downwards are splayed slightly on the outside. They were strengthened both inside and outside the building by a packing of gravel, river sand and clay, with a small admixture of lime, which may, however, have been accidental. Both the foundations and the superstructure are constructed of heavy limestone blocks in the semi-ashlar style.[2] No doubt the outer walls of the upper story were of similar construction, but to judge by the large quantities of ashes, burnt earth, iron nails, clamps and the like which were found in the debris, it is evident that the upper floor and roof, and perhaps the inner partitions as well, were of timber.

Small monastery: description

Date of monastery

The date—third or fourth century A.D.—to which I assign this monastery, is based upon the good quality of its semi-ashlar masonry, which is approximately contemporary with that of the Kunāla monastery. That it was destroyed by the White Huns at the close of the fifth century, at the same time as other Buddhist buildings at Taxila, was indicated by the presence in the courtyard of the monastery of seven silver coins of the White Huns (R.U.C. ch. 39, nos. 308–12) similar to those found in the ruins of the Dharmarājikā and Bhamāla monasteries (pp. 289, 396). Besides these silver pieces, only two other coins came from inside the monastery, namely: a copper piece of Maues (R.U.C. no. 120) and a late Indo-Sasanian piece of crude fabric (R.U.C. no. 351).

Coins and other minor antiquities

Other small objects recovered from this building were: (*a*) A copper *triśūla*, 5 in. long, of the same class as 'Copper and Bronze Objects', ch. 28, nos. 402–5. Gilt on both sides and with two iron rings at back, of which one is broken (*A.S.R.* 1915–16, Pl. XVI, *a*). (*b*) Two copper rosettes, gilt on one side, 2·75 in. diam., with hole in centre bearing traces of iron nails. Probably served as bosses on a wooden door (cf. 'Copper and Bronze', no. 410). (*c*) Bronze finger-ring with flat bezel and knobs on either side, 0·8 in. diam. (*d*) Iron pickaxe, 6·5 in. long.

[1] Cunningham does not appear to have noticed the remains of this place, as there is no reference to them in his Reports.

[2] For a view of the monastery taken from the south-west, cf. *A.S.R.* (1915–16), Pl. XIV, *a*.

Hole for handle broken. (*e*) Iron arrow-head, 2·5 in. long, with triple flange but no barbs (cf. Pl. 165, no. 88 for type). (*f*) 150 beads, probably belonging to a single necklace, of the following materials and shapes:

Shape	Agate	Carnelian	Chalcedony	Garnet	Lapis-lazuli	Malachite	Quartz crystal	Felspar	Shell	Pearl	Total
Spherical	—	19	—	2	—	—	2	—	—	—	23
Oblate		—	—	—	—	—	—	—	1		1
Barrel, standard	—	—	1	—	—	—	—	—	—	—	1
Barrel, short	—	—	—	—	2	—	—		—	—	2
Barrel, long	1	—	—	—	—		—	—	—		1
Barrel, flat	—	—	—	—	—	—	1	1	—	—	2
Cylindrical	—	—	—	—	—	1	—	—	—	—	1
Bicone, truncated	—	1	—	—	—	—	—	—	—	—	1
Faceted	—	9	—	—	—		—	—	—		9
Irregular or natural	—	—	—	—	—		—	—	108	1	109
Total	1	29	1	2	2	1	3	1	109	1	150

Stūpa I

The larger of the two stūpas (numbered I in the Plan on Pl. 112) is situated to the south-east of the monastery and about 40 yards distant from it. It was square in plan with a broad flight of steps projecting from its northern side and terraced. Its core, as usual, was of rubble, and its facing of neatly dressed masonry with kañjūr let into the limestone for all decorative features, both limestone and kañjūr being finished with a coating of stucco. The mouldings at the base are the familiar torus and scotia, the former being bevelled in three facets. The pilasters which adorn the plinth are of the Corinthian order, but very stunted and decadent and surmounted by Hindu brackets.

The stūpa stood in the middle of a rectangular court, and inside this court,[1] to the right and left of its entrance, were the remains of two small chapels, of which the one to the east consisted of a square sanctum for the image, with a portico in front paved with stone slabs. What is left of the other is too fragmentary to be made out with certainty. Both the design and the construction of this stūpa indicate that it was coeval with the neighbouring monastery described above, and it is therefore interesting to record that a pit sunk into the rubble core of the stūpa yielded seven copper coins, viz. one Local Taxilan (*chaitya* and blank); one Antialcidas (R.U.C. ch. 39, no. 72); five Late Indo-Sasanian and uncertain (*ibid.* two of no. 354 and one each of nos. 355, 356 and 359). As these coins were lying haphazard in the earth, at depths between 10 ft. and 12 ft. 6 in. below the surface, it is very unlikely that they were intentionally deposited there when the stūpa was erected. Their presence may be accounted for, however, on the assumption that the debris used for the core of the stūpa was brought from one of the ancient city sites where such

Coins in body of stūpa I

[1] Traces of cells were observed around the limits of this court but were not excavated, and are not therefore shown on the plan.

coins are found in abundance. In any case they prove that the stūpa was posterior to the latest of these coins. A coin of Sāmantadeva (*ibid.* no. 321), which was picked up in the spoil earth, belongs to a later period (tenth century A.D.).

Stūpa II

The second stūpa[1] (plan on Pl. 112) lies between stūpa I and the monastery, but nothing was left of it except its semi-ashlar foundations. Fortunately, however, the relic-deposit in the centre of the stūpa was still undisturbed. The earthenware pot which contained it had been broken by the weight of the superincumbent debris, but the deposit itself was intact and proved to consist of thirty beads of gold, garnet, agate, shell and glass.[2] The relic-bone, which had presumably accompanied them, had crumbled to dust.

[1] The remains of this stūpa have been covered in again since excavation.

[2] Three of these beads (one agate, one garnet and one shell) are oblate, and one (glass) is a short barrel; the rest spherical.

Chapter 22. BHAMĀLA

FROM a defensive point of view the position of the Bhamāla monastery was an ideal one; for not only was it situated at the very head of the Haro valley among the Murree foot-hills, 10 miles or more to the east of Sirsukh, but it was protected on three sides by the river Haro itself, which here sweeps in a sharp bend round its base, and on the fourth side by the hills (Pls. 113, *c* and 115, *a*), so that the monks could readily defend their home against small bands of raiders, or make their escape in the event of the city itself being invested by larger forces. The only real objection to the position would be its great distance from the city, which would make it virtually impossible for the *bhikshus* to do any daily begging in the streets; and in former days, when such begging was the rule, this objection might have been insuperable; but the Bhamāla monastery was not founded until the fourth or fifth century A.D., when the condition of monastic life in the North-West had radically changed and the *bhikshus* were residing in well-built and evidently well-provisioned monasteries, where mendicancy—except, perhaps, for form's sake—was no longer necessary. Position of *saṅghārāma*

The terrace—a natural one—on which the monastery stands measures some 400 ft. from east to west by 140 ft. from north to south. In the middle rises the solid mass of the principal stūpa, set round with a group of small stūpas and chapels, and to the east of it a rectangular monastery of a type now sufficiently familiar at Taxila (Pls. 114–16). To the west of the stūpa group were other ruins, doubtless belonging to a second series of monastic buildings, but on this side the terrace has been much eroded by the river floods, and what is left of these structures would hardly be likely to justify the expense of excavation. Plan of buildings

In its present ruined condition the principal stūpa still has an elevation of over 30 ft. (Pl. 116, *a*). Its plan is cruciform, consisting of a tall square podium with an imposing flight of steps ascending the middle of each side; and the more to increase its dignity, the whole is set on a plinth some 3 ft. in height, which in its outline follows the salient and re-entrant angles of the podium. The core of the structure is composed of heavy blocks of limestone laid in regular courses in the manner common during the fourth and fifth centuries A.D., with small pebbles and mud filling the interstices between them. The facing is of semi-ashlar masonry of a characteristically late type, similar to that of the monastery but less massive. Mouldings and pilasters are, as usual, of kañjūr stone, which thanks to its softness can be more easily chiselled than the refractory limestone, and over the whole is spread a thick facing of lime plaster, in which all the finer details of decoration, both architectural and figural, were executed. On the face of the projecting plinth this decoration takes the form of a series of panels, divided one from another by stunted Corinthian pilasters of a coarse and clumsy type. Some of the panels were Main stūpa: design, structure and decoration

bare, others were relieved by single figures of the Buddha in the *dhyāna* or *śikshā mudrā*; others (and these were at the salient angles) by a group of three Buddhas or of the *mahāparinirvāṇa* scene (Pl. 118, *a–c*). The podium, which unfortunately is much mutilated, rose to a height of 9 ft. 6 in. above the plinth and was relieved on all sides by slender Corinthian pilasters set on a boldly moulded base, at the foot of which, and resting on the top of the projecting plinth, was a series of small stucco figures of the Buddha in the same attitude as those on the plinth below. Above the podium was the usual circular drum and umbrellas which invariably crowned these monuments. That the drum was also embellished with figural sculptures was proved by the finding of a draped figure belonging to a stucco relief in the debris and ashes on the top of the podium. Other fragments also found in the debris round about the podium included some brackets of kañjūr stone in the form of lions' heads (which had probably fallen from the corners of the podium itself) together with pieces of the crowning umbrellas.

Flights of steps

The one really striking feature of this monument is the boldness of the four fine flights of steps round its base, which are all the more interesting because they exhibit better than any other examples at Taxila the design of the raking cornice, the brackets of which are carried down in an awkward and far from pleasing manner (Pl. 117). At the foot of these cornices, i.e. at the bottom of the lower flight of steps, were pairs of small animals guarding the approaches—lions on the east and west, elephants on the north and south. On the landing above them the cornices terminated in low pylons adorned at the base with seated Buddhas alternating with Corinthian pilasters.

Figural reliefs the dying Buddha

As to the figural sculptures, there are many detached heads which resemble in style the majority of those found at Jauliāñ and Mohṛā Morādu, but the only piece that merits particular notice is the relief of the dying Buddha already alluded to (cf. 'Stucco Sculptures', ch. 26, no. 99 = Pls. 118, *a*, *b* and 161, *m*),[1] which adorned one of the panels round the plinth, its precise position being on the east face of the projecting angle in the corner to the east of the southern flight of steps. This panel has a special interest, because it is the only stucco relief from the North-West which depicts the Buddha's death-scene. In length, it measures 2 ft. 4 in.; in height, 1 ft. 6 in. Between the two Corinthian pilasters the Buddha is lying at full length on his right side. Behind him are four mourning figures, of whom the one near his feet seems to be a woman. Below, on the face of the plinth, are four other small figures, of which the one near the Buddha's head is a Dhyāni Buddha and the one near his feet a devotee kneeling with folded hands. The two central figures appear to have swooned at the sight of their dying Master.

Coin deposits in main stūpa

In the fourth and fifth centuries it was usual to construct the relic chamber of large stūpas high up in their dome instead of low down in their foundations, and there is no reason to suppose that the Bhamāla stūpa was an exception to this rule. Accordingly there was no likelihood of our finding any relics in the actual stūpa.

[1] The illustration in Pl. 118, *b* shows this relief in the condition in which it was unearthed; Pl. 161, *m* shows it after it had been removed and put together in the museum.

Nevertheless, a shaft was sunk in the middle of its core (which had already been deeply trenched by treasure-seekers) in the hope that it might possibly contain some deposit of coins such as was known to have been found at Manikyāla. This hope was not disappointed. At foundation level my assistant, Khan Sahib A. S. Siddiqi, came upon six coins at a depth of 11 ft. 5 in. below the surface and of another deposit of 113 coins at a depth of 14 ft. 6 in., both of which had no doubt been buried in the stūpa at the time when it was built. One coin in the upper deposit is in the Sasanian style with an indistinct head of a king on the obverse and what appears to be a fire-altar on the reverse (R.U.C. ch. 39, no. 298). All the rest of the coins, both in the upper and lower deposits, exhibit a crude human figure on the obverse, and a square within dots on the reverse (*ibid.* nos. 344–6). In the present state of our knowledge the date of these coins cannot be fixed precisely, but there can be no doubt that they are assignable to the late fourth or fifth century A.D. With the lower deposit of coins was found an hexagonal cylinder bead of aquamarine.

The courtyard in which this stūpa stood (Pl. 115, *b*), being at a higher level by some 7 ft. than the monastery on the east, was approached on that side by a wide flight of nine steps leading up to a gateway (B4). The latter is a simple rectangular chamber with portals on its eastern and western sides, which later on were reduced in width by additions to their jambs. On either side of the western portal is a small plinth which once supported a statue, probably of a Dvārapāla, but, unfortunately, nothing is now left of these two statues except the feet. As these are 17 in. in length, we may infer that the statues stood between 9 and 10 ft. high. *Stūpa-court. gateway*

On either side of this gateway, abutting against its side walls, are two small image shrines (B3 and B5) with plaster floors, but all trace of the images themselves has disappeared. Farther out on the right and left of the gateway are three larger chapels, two facing each other (B1 and B7), the third (B8) facing westwards towards the main stūpa. Round about the rest of the court are some nineteen small stūpas with square bases, such as are found in all the more important stūpa groups at Taxila. The chapels take the form of single chambers with small porticoes in front of their entrances; probably all three were embellished with figural reliefs standing on low plinths against their inner walls, though actual remains of these figures have been preserved only in two of them, viz. against the east wall in B7 and against the south, east and north walls in B8. Inside the latter chapel there are also remains of an unusual type of stūpa (A20), the base of which is relieved by twelve concave flutings with bracket projections at the corners. *Chapels*

The rest of the minor stūpas are typical structures of the fourth or fifth century A.D., several of them being similar in design to those at the Dharmarājikā, where the date in one case was determined by the presence of coins of Shāpur II (A.D. 309–79). Their bases are square and constructed of semi-ashlar or occasionally limestone masonry with kañjūr facings. Round the base there generally runs a row of stunted Corinthian pilasters with the usual Buddha figures in between (Pl. 120, *a–c*). *Minor stūpas*

Stūpa A5

In stūpa A5 was found a small earthen pot (*gharā*) containing the following articles: two beads (one of shell and one of black agate); a piece of carnelian finger-ring; two pieces of coral; six fragmentary copper coins of the same type as R.U.C. ch. 39, nos. 344–6; and one fine silver Sasanian coin, which is referable to Varahran IV (A.D. 388–99). On the obverse is the bearded bust of the king to right, in beaded border; his crown is surmounted by crescent and globe with wings behind. On the reverse is a fire altar with head of Ormazd in flames; on each side attendant with spear 'presenting arms' (*ibid.* no. 285).

Stūpa A15

In stūpa A15 (Pl. 120, *c* and *d*) was found another crushed jar containing seven pieces of bone; three beads, of blue glass, agate, and coral respectively; a gold ear-ornament set with three pearls (diam. 0·56 in.); and 160 small copper coins of same type as R.U.C. nos. 344–6. Accordingly it may be inferred that this small stūpa was erected at no great length of time after the main stūpa itself.

Small casket

To the west of stūpa A8, and doubtless emanating from one or other of the ruined structures nearby, was found a small cylindrical casket of copper (0·87 in. long) containing a similar one of silver (0·5 in. long), which in turn contained a still smaller one of gold, with a tiny rosette of thin sheet-gold and two coral beads.

Tiled pavement

The pavement of the stūpa-court was composed for the most part of terra-cotta tiles measuring 1 ft. 4 in. × 9 in. × 1·75 in., which were covered—probably at a later date—with a coating of lime plaster. Ordinarily, the tiles were laid flat, but in order the better to retain them in position, they were divided into squares with lines of tiles-on-edge between them. In front of the eastern ascent to the main stūpa this tiled pavement assumes the form of a 'Wheel of the Law' (*dharmacakra*), the spokes and rims of which, together with a small concentric circle inside, are formed of tiles-on-edge, the remainder of wedge-shaped tiles laid flat (Pl. 119, *a*, in foreground).

Another interesting patch of tiled pavement occurs in front of the image cell B5, which abuts against the north side of the entrance gateway. Here the tiles, which number over 100, are of three sizes, viz. 10·25 in. square, 7·5 in. square and 6·25 in. square, with a variety of patterns incised on their faces, among which may be noticed swastikas, lotus rosettes, concentric circles, quatrefoils of pipal leaves, crosses, spirals, double-axes, etc., most, if not all, of which had a definite religious significance for the Buddhists (Pl. 119, *b*).

Monastery: plan

The monastery to the east (Pls. 115, *b* and 116, *b*) is designed on the usual plan with a large court of cells in front, and an assembly hall (C), kitchen (D) and refectory (E) in the rear. There are two exceptional features, however, to be noticed in connexion with its plan. One is that the veranda along the western side of the court of cells is much broader than usual, and that on this side, moreover, there are two extra cells in the two corners of the veranda, such as are not found in other monasteries, taking up nearly all the veranda space at these points and leaving a passage-way of not more than 2 or 3 ft. The other exceptional feature is that the only flight of stairs giving access to the upper floor is located in the kitchen instead of in one of the chambers of the court of cells. It is possible, though, that there was a second flight in the court of cells, which was made of wood and has wholly perished. Otherwise the monks living above would have had to cross over the court

of cells and pass through the kitchen in order to reach their chambers—a very inconvenient arrangement.

Structural features

The masonry of which this monastery is built is the late semi-ashlar variety, frequently with two ashlar courses between diaper ones and with small flat stones inserted between the squared ashlar in order to level up the beds. Though very solid, it is not as massive or as finely finished as the masonry of the Kunāla monastery or of the contemporary monastery at the Dharmarājikā. As usual, the interior walls were covered with clay plaster, much of which was converted to terra-cotta in the general conflagration which destroyed this group of buildings. In places, the cells are standing up to a height of 10 or 12 ft., and in one of the cells (nos. 6–7) the doorway, including the stonework over the lintel, is exceptionally well preserved, though the lintel itself, which was of wood, has, naturally, perished. The height of this doorway was 6 ft. 1 in., its width at the bottom 4 ft. but at the top 9 in. less, since the jambs, as usual, sloped inwards (Pl. 118, *d*).[1] Inside the cells several of the wall niches are still preserved, but the windows, which for safety's sake were invariably placed near the roof, have all disappeared. Outside the north wall and near its middle, is what at first sight looks like an unusually massive buttress, but was more probably the base of a watch-tower similar to the one on the north side of monastery G at the Dharmarājikā (*q.v.*). On the other hand, there is a true buttress at the north-east corner of the monastery, which was once evidently in danger of collapse. Both the watch-tower and the buttress are built of the same kind of masonry as the main body of the structure, and it may be inferred that they were added at no great length of time after its erection.

Effect of burning

From the vast amount of burnt earth lying in the cells and courtyard of this monastery, it is evident that the fire which destroyed it must have been a particularly fierce one. Most of the burnt clay doubtless came from the roof, which it had served to protect from rain and heat, but it is noteworthy that in the open courtyard—not in the cells—there was a layer of earth 1 or 2 ft. in thickness *underneath* the layer of charcoal and burnt clay, and that this layer of earth was only slightly affected by the fire. It seems, therefore, that when the monastery was in occupation, its stone-flagged courtyard must have been covered with a deep layer of earth—perhaps to prevent the radiation of heat off the stones and so ensure greater coolness. So far as the monastery was concerned, there was quite enough timber in its pillars, floors and roofs to account for the fierceness of the flames, and there would be no need for the White Huns who destroyed it to add more fuel. Round about the stūpa, however, where the fire seems to have been just as fierce, it is clear that the Huns must have piled up large quantities of timber stripped, no doubt, from the neighbouring monastery.

Stone-flagged and earthen floors

Minor antiquities

Besides the deposits of coins and other small objects found in the stūpas, some thirty pieces of stucco sculpture, chiefly detached heads of statues, were recovered

[1] The purpose of the sloping jambs in this and other monasteries may have been to make the doors which were provided with pivot hinges, close automatically.

from the stūpa-court, and a number of coins and a few other antiquities from the monastery area.

Of the stucco heads and other fragments found lying in the stūpa-court, there are only three that call for remark, all apparently heads of lay-worshippers. They are described under 'Stucco Sculptures', ch. 26, nos. 100–2 and reproduced in Pl. 161, *o–q*. The first is of unusually good workmanship, the modelling being free and plastic and the technique suggestive of terra-cotta rather than stucco. The second wears a conical cap or helmet over his long hair; from his sparse moustache and oblique eyes he seems to be of Mongolian extraction. The third is perhaps a portrait head; the eyes are wide open and prominent, the eyebrows highly arched, the nose broad and bulbous, the cheeks full and the underlip loose. These three pieces were found lying on or at the side of the eastern flight of steps of the main stūpa. Another piece of carving which was found in the monastery court is a small statuette of slate stone, possibly of Hāritī ('Stone Sculptures', ch. 36, no. 2 = Pl. 211, no. 2). The goddess is seated on a cushioned seat and is wearing a *sārī*, necklace and bangles. In her left hand are what appear to be two lotuses, but the tops are unfortunately broken.

Another object of interest, also from the stūpa-court, is a finger-ring of copper, bearing on its almond-shaped bezel an inscription in Gupta Brāhmī which appears to read: *Babhacha-(ta)rṇa* = ? Bacharaṇa ('Finger-rings', ch. 31, no. 56 = Pls. 198, no. 56, and 208, no. 58).

Coins

Besides the deposits described above in the main and smaller stūpas, there were thirty-two other coins from Bhamāla, one of gold, eleven of copper and twenty-one of silver. The gold piece, from cell 8, was of the Late Kushan prince Bacharaṇa = R.U.C. ch. 39, no. 270. The copper pieces comprised the following: one Huvishka ('King seated cross-legged and Fire-god'—from east of main stūpa); five Vāsudeva (four 'Śiva and bull', one 'Seated goddess' —three from monastery bathroom, two from front of cell 22); one new type of later Kushān = R.U.C. no. 269 (mon., north-west corner); one late Indo-Sasanian, same type as R.U.C. nos. 344–6 (cell 10); two defaced (from stūpa 18 and cell 25, respectively).

Of the twenty-one silver pieces of the White Huns, twenty were found in a group in the doorway of cell 13, and one in front of cell 8. They are of special interest, not only because of their great rarity but because they help to fix the date when these Buddhist buildings were destroyed. Along with other coins of the same class found amid the ruins of the Lālchak and Dharmarājikā monasteries, they are described under R.U.C. nos. 300–13 and illustrated in Pl. 245. On the obverse is the beardless head of a king to right in beaded border, on the reverse a fire-altar with attendants on either side. Among them are several varieties. In one (no. 300), which appears to be the earliest, a fly-whisk or plume occupies the field to the right of the head, and the legend is in a script which seems to be a debased form of cursive Greek imitated from Kushāno-Sasanian coins. In another (no. 302) the fly-whisk is replaced by a monogram. But in the majority there is a short mace or club in front of the face and the name of the ruler is given in Gupta Brāhmī characters. In some specimens, again, the attendants on the reverse appear to be 'presenting' spears to the altar; in others to be 'presenting' swords; and in some, a face appears among the altar flames; while in others it is absent.

White Hun coins and their date

That these coins were imitated from earlier Sasanian issues such as those of Varahrān V is obvious, but they have a very distinctive style of their own, and the heads on the obverse, with their high conical dome, flattened occiput and long prominent nose, are peculiarly characteristic of the White Huns.[1] Sung Yun, the Chinese pilgrim, who was in Gandhāra about A.D. 520, tells us that the White Huns had then been in occupation of the country for two generations. It may be inferred, therefore, that the majority of these coins, which bear Brāhmī legends,

[1] Cf. ch. 12, pp. 313–14.

were struck in the latter part of the fifth century A.D., since Brāhmī would hardly have been used until after the Huns had established themselves in the North-West. On the other hand, the earliest of the group, which bears a legend in cursive Greek, may well have been struck in Tochāristān (Bactria), where that form of script is known to have been in vogue. A point that deserves particular notice is the marked superiority of these coins, both in design and workmanship, over those of the White Hun rulers Toramāṇa and his son Mihiragula,[1] the former of whom can be dated approximately to A.D. 500. It might be argued from this that a considerable interval of time must have elapsed between the issue of the two groups, but the real explanation is no doubt to be found in the fact that the earlier group was struck in a mint where engraving had not yet degenerated to the extent that it had in the Indian mint where the coins of Toramāṇa and Mihiragula were struck. All things considered we cannot, I think, be wrong in assigning these coins to the second half of the fifth century A.D. and in concluding that the wholesale destruction of the Buddhist monuments of Taxila took place in the last quarter of that century.[2]

Group of ruins west of main stūpa

It remains to add that to the west of the main stūpa are the ruins of another group of buildings, but at this point the site has been so eroded and damaged by river floods that they are hardly likely to repay excavation. The row that faces east towards the main stūpa appears to have contained chapels rather than cells, the doorways being too wide for cells and the walls being plastered with lime stucco instead of clay, as they invariably are in the monasteries.

[1] E.g. *I.M. Cat.* Pl. xxv, 4 5. The coins of Toramāṇa, father of Mihiragula, are to be distinguished from those of Toramāṇa of Kashmīr (R.U.C. nos. 315, 316 and *I.M. Cat.* Pl. xxvii, 2-3), which are in the degenerate Kushān tradition.

[2] For further remarks on these White Hun coins, see ch. 38, pp. 791 ff.

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